Reference Table: Provided for Reviewers

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
ESN-0003#B	8534	96-1452A	The ESN shall enable researchers on existing networks (TCP/IP and GOSIP) to gain access to data and ECS services in a transparent manner to the underlying differences between the networks.	B: ASTER GDS interfaces to EDC DAAC only. All researchers gain access to data and ECS via NSI.		C-ISS-02060	2348	IR1			The ISS shall provide network layer services in compliance with one or more of the following protocols as appropriate to the type of the physical network supported. a. IP over Ethernet as specified in RFCs 894, 895, 826 (ARP), 903 (RARP) b. IP over FDDI as specified in RFC 1188, 1390 (ARP, RARP) c. IP over HiPPI as specified in RFC 1374 (includes ARP, RARP) d. IP over SMDS as specified in RFC 1209 (includes ARP, RARP)
						C-ISS-02000	2352	IR1			The ISS shall provide connection oriented transport services as specified by the TCP protocol referenced in RFC 793.
						C-ISS-02020	9386	IR1			The ISS shall provide connectionless transport services as specified by the UDP protocol referenced in RFC 768.
						C-ISS-02030	9387	IR1			The ISS shall provide network layer services as specified by the Internet Protocol (IP) suite referenced in RFC 791.
						C-ISS-02050	9388	IR1			The ISS shall provide ICMP network layer service as specified by RFC 792.
						C-ISS-02520	9389	IR1			The ISS shall provide services based on the Open Shortest Path First (OSPF) protocol referenced in RFC 1583 to route traffic between the source and destination nodes, maintain route databases, and exchange routing information between networks.
						C-ISS-02530	9390	IR1			The ISS shall provide services based on the Routing Information Protocol (RIP) referenced in RFC 1058 to route network traffic between the source and destination nodes.
						C-ISS-21010	11877	B0	96-1471A		The ISS-INHW CI shall provide LANs at the following sites: a. GSFC DAAC LAN b. GSFC EOC LAN c. EDC DAAC LAN d. LaRC DAAC LAN f. GSFC SMC LAN
ESN-0006#B	8535	96-1452A	ESN shall interface with NSI to reach all external non-ECS network-attached facilities and science users.	B: Science users, SCFs. ESN is considered to be ECS DAAC networks.		C-ISS-11020	11873	B0	96-1471A		The ISS shall interface with NSI at GSFC, LaRC, EDC, JPL, NSIDC, ORNL, and ASF to provide DAAC access to science users in accordance with the following documents: a. DID 220, "Communications Requirements for the ECS Project" 194-220-SE3-001 b. Interface Requirements Document between EOSDIS Core System (ECS) and the NASA Science Internet (NSI), 194-219-SE1-001
ESN-0010#B	8536	96-1452A	ESN shall provide the following standard services: a. Data Transfer and Management Services b. Electronic Messaging Service c. Remote Terminal Service d. Process to Process Communication Service e. Directory and User Access			C-MSS-16010	181	A			MSS Monitor/Control Service shall communicate via ECS management protocol with the Management Agent Service in test or operational mode.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
			Control Service f. Network Management Service g. Network Security and Access Control Service h. Internetwork Interface Services i. Bulletin Board Service								
						C-MSS-18350	234	A			The MSS Management Data Access Service shall provide the capability for an application to load log files into the management database at the site
						C-MSS-70110	326	A			The MSS site Security Management Application Service shall provide the capability to specify privileges for authorized users and user groups for access to ECS resources.
						C-CSS-61840	397	A			The CSS Electronic Mail Service shall be capable of sending a message to multiple destinations.
						C-CSS-63060	398	A			The CSS Virtual Terminal shall support X applications.
						C-MSS-36080	437	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS Host systems
						C-CSS-61290	457	A			The CSS Electronic Mail Service shall provide functionality to send reply for a received message to a. the author b. to all destinations addressed in the incoming message MailTool
						C-CSS-61310	458	A			The CSS Electronic Mail Service shall provide a MAILBOX where all incoming messages for operators will be stored.
						C-CSS-61320	459	A			The CSS Electronic Mail Service shall provide operator defined folders to store messages for long term archive.
						C-CSS-61330	460	A			The CSS Electronic Mail Service shall allow copying and/or moving messages from the MAILBOX to the operator specified folders.
						C-CSS-61360	463	A			The CSS Electronic Mail Service shall be capable of showing a summary of all messages in the MAILBOX or in a folder which minimally contains: a. title/subject of the message b. name of the author c. date/time of the message origination
						C-CSS-61370	464	A			The CSS Electronic Mail Service shall provide an editor to compose a message.
						C-CSS-61380	465	A			The CSS Electronic Mail Service shall provide a title/subject field for a message.
						C-CSS-61390	466	A			The CSS Electronic Mail Service shall allow a message to be sent to multiple destinations.
						C-CSS-61400	467	A			The CSS Electronic Mail Service shall allow destinations of the following types: a. a single user b. a position which may be managed by one or many operators c. a site which may consists of several operators.

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						C-CSS-61410	468	A			The CSS Electronic Mail Service shall provide a capability to maintain public mailing lists (each list may contain multiple destination) which are accessible to all operators.
						C-CSS-61420	469	A			The CSS Electronic Mail Service shall provide a capability to maintain private mailing lists (each list may contain multiple destination) for individual operators.
						C-CSS-61430	470	A			The CSS Electronic Mail Service shall allow attaching either text or binary files to a message.
						C-CSS-61440	471	A			The CSS Electronic Mail Service shall allow discarding message(s) from the MAILBOX without saving.
						C-CSS-61450	472	A			The CSS Electronic Mail Service shall have the capability to forward a message.
						C-CSS-61460	473	A			The CSS Electronic Mail Service shall allow cut/copy/paste/delete/undo operations in the editor.
						C-CSS-61470	474	A			The CSS Electronic Mail Service shall provide navigation methods to go the next or previous message in the MAILBOX or selected folder.
						C-CSS-61490	476	A			The CSS Electronic Mail Service shall provide the capability to search for keywords in messages.
						C-CSS-61500	477	A			The CSS Electronic Mail Service shall provide the capability to search the MAILBOX or a folder for keywords in title text.
						C-CSS-61510	478	A			The CSS Electronic Mail Service shall provide the capability to search the MAILBOX or folders for a specific author.
						C-CSS-61520	479	A			The CSS Electronic Mail Service shall accept mailing lists as valid destinations.
						C-CSS-61800	480	A			The CSS Electronic Mail Service shall provide the capability to send an electronic mail message non-interactively from an application.
						C-CSS-61810	481	A			The CSS Electronic Mail Service shall allow attaching multiple text or binary files to the mail message.
						C-CSS-61820	482	A			The CSS Electronic Mail Service shall accept a file name as input for the message text.
						C-CSS-61850	485	A			The CSS Electronic Mail Service shall accept mailing lists as valid destinations.
						C-CSS-60300	486	A			The CSS File Access Service shall provide transparent access to remote files.
						C-CSS-60310	487	A			The CSS File Access Service shall support access control for the remote files.
						C-CSS-60320	488	A			The CSS File Access Service shall provide location independent naming for the remote files.
						C-CSS-60910	501	A			The CSS File Access Service shall allow for file type selection (ASCII or Binary).
						C-CSS-62060	509	A			The CSS Bulletin Board Service shall provide the capability for copying files.
						C-CSS-62070	510	A			The CSS Bulletin Board Service shall support download of ECS toolkits.
						C-CSS-	511	A			The CSS Bulletin Board Service shall collect and

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						62080					maintain access history and statistical information for the service.
						C-CSS-62130	516	A			The CSS Bulletin Board Service shall provide a "What's new" feature which informs the user of the new information available on the bulletin boards.
						C-CSS-62390	527	A			The CSS Bulletin Board Service shall allow attaching ASCII or binary files to a message.
						C-CSS-62800	528	A			The CSS Bulletin Board Service shall interface for the applications to post a message to bulletin boards.
						C-CSS-62820	530	A			The CSS Bulletin Board Service shall allow a message to be posted to multiple bulletin boards.
						C-CSS-01000	638	A			The CSS DOF Service shall provide a standards-based Interface Definition Language (IDL) and language mappings to at least C and C++ (limited) languages.
						C-CSS-01010	639	A			The CSS DOF provided IDL shall support versioning of the interface supporting minor and major versions.
						C-CSS-01030	641	A			The CSS DOF Service shall support the passing of the general error status as a parameter in calls between the clients and servers automatically.
						C-CSS-01040	642	A			The CSS DOF Service shall provide the capability to marshal and unmarshal the arguments and the returned value transparently while making a remote procedure call.
						C-CSS-01070	645	A			The CSS DOF Service shall provide server APIs to register/unregister services in the namespaces (in different administrative domains) under different views (server/group/profile).
						C-CSS-01080	646	A			The CSS DOF Service shall provide server APIs to register/unregister different implementations of an interface in the namespace.
						C-CSS-01090	647	A			The CSS DOF Service shall provide server APIs to register/unregister individual objects implementing an interface in the namespace.
						C-CSS-01100	648	A			The CSS DOF Service shall provide server APIs to register their services using different protocols in the namespace.
						C-CSS-01120	650	A			The CSS DOF Service shall provide mechanisms to shutdown a service gracefully, by allowing the servers to unregister the server information from the namespace.
						C-CSS-01130	651	A			The CSS DOF Service shall provide server APIs to limit the maximum number of threads to use in servicing the requests concurrently.
						C-CSS-01140	652	A			The CSS DOF Service shall provide client APIs to bind to services (registered in the local namespace as well as remote namespaces) by using any of the following information to achieve location transparency of services. a. a service name b. an interface name c. an object name d. a host name and communication protocol e. an object reference

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-CSS-01150	653	A			The CSS DOF Service shall return gracefully by throwing an exception or returning an error code when it can not retrieve the binding information or can not resolve a binding.
						C-CSS-01160	654	A			The CSS DOF Service shall provide client APIs to specify a confidence level of the binding information as follows: a. a low confidence level indicating the use of a local cache to obtain binding information b. a medium confidence level indicating the DOF to get the binding information from any of the directory replicas. c. a high confidence level indicating the DOF to get the binding information from the master copy of the directory services.
						C-CSS-01170	655	A			The CSS DOF Service shall provide APIs to set/get the authentication service type to be used between the server and the client.
						C-CSS-01190	657	A			The CSS DOF Service shall provide APIs to maintain the integrity of the data to be passed between the client and the server.
						C-CSS-01200	658	A			The CSS DOF Service shall provide APIs to maintain the privacy of the data passed between the client and the server by encrypting and decrypting the data.
						C-CSS-01210	659	A			The CSS DOF Service shall provide APIs to set the identity of a given principal to a given process.
						C-ISS-02040	673	A			The ISS shall provide the capability to filter packets based upon network layer source and/or destination addresses.
						C-ISS-01130	684	A			The ISS shall provide for connectivity to the LaRC campus network to enable transfer of data between SCF(s) located at LaRC and the LaRC DAAC.
						C-ISS-01140	685	A			The ISS shall provide for connectivity to the GSFC campus network to enable transfer of data between SCF(s) located at GSFC and the GSFC DAAC.
						C-ISS-01150	686	A			The ISS shall provide for connectivity between the Landsat system and the EDC DAAC to support the ingest of Landsat data.
						C-ISS-01190	690	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 services between EOC components (in support of FOS interface testing at Release A).
						C-ISS-01270	947	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between the SMC and the GSFC DAAC.
						C-ISS-01290	949	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between the FOS EOC components and the CSMS-provided LSM within the EOC.
						C-ISS-01330	953	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between CSMS components at the LaRC DAAC.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-ISS-01340	954	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between CSMS and SDPS components at the LaRC DAAC.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-MSS-60130	2345	IR1			The MSS Fault Management Application Service shall provide the capability to detect the following types of faults, errors and events: a. communications software version mismatch errors b. communication software configuration errors c. the following errors in communication hardware: 1. host not reachable 2. router not reachable 3. errors and failures of communication links d. Errors in the communications protocols supported e. degradation of performance due to established thresholds being exceeded f. Peripherals g. Databases h. Applications: 1. process missing (Application or COTS product) 2. process in a loop 3. process failed
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-14010	2367	IR1			The MSS Maps/Collection Service shall retain the status of managed objects and their relationship to symbols that

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											comprise a graphical representation of the physical network topology.
						C-MSS-20010	2368	IR1			The MSS Discovery Service shall discover (via network protocol) new instances of managed objects.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-20030	2370	IR1			The MSS Discovery Service shall report missing occurrences of managed objects.
						C-CSS-60500	2396	IR1			The CSS File Access Service shall provide functionality for interactive and non-interactive transfer of files (send and receive) between two host systems.
						C-MSS-14030	2404	IR1			The MSS Map/Collection Service shall provide a capability to define a hierarchical relationship between maps and sub-maps (i.e., a graphical hierarchical tree)
						C-MSS-14040	2405	IR1			The MSS Map/Collection Service shall propagate events associated with objects up the hierarchical tree
						C-MSS-16005	2406	IR1			The ECS management protocol shall be the SNMP standard as specified in RFC 1157.
						C-MSS-20020	2408	IR1			The MSS Discovery Service shall detect missing occurrences of managed objects.
						C-MSS-70120	2411	IR1			The MSS site Security Management Application service shall provide the mechanism, for each ECS host, to allow or deny incoming requests from specific hosts to services.
						S-INS-00040	4029	IR1			The INGST CI shall report status to the provider of a Network Ingest Request and to the Error Log indicating successful or unsuccessful authentication of the provider as authorized to submit the request.
						C-ISS-01256	5318	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 services between the CSMS components at the EDC DAAC.
						C-CSS-01250	7226	B0	96-1355		The CSS DOF Service shall provide cell namespace aliasing for the directory service to permit administrative ease of changes.
						C-CSS-01270	7228	B0	96-1355		The CSS Security Service shall provide for distributed file service delegation that permits a file to be passed with its corresponding directory service namespace structure.
						C-CSS-01230	7234	B0	96-1355		The CSS Security Service shall provide security delegation to allow an intermediary server to operate on behalf of an initiating client while preserving both client's and server's identities and access control attributes across chained operations.
						C-CSS-10510	7312	B0	96-1355		The CSS DCCI shall accept email service request from the User.
						C-CSS-10550	7316	B0	96-1355		The CSS DCCI shall provide email service to the User.
						C-CSS-10610	7322	B0	96-1355		The CSS DCCI shall accept Common facilities request from CLS

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-CSS-10630	7324	B0	96-1355		The CSS DCCI shall provide Common facilities to CLS.
						C-CSS-10650	7326	B0	96-1355		The CSS DCCI shall accept Common facilities request from IOS.
						C-CSS-10670	7328	B0	96-1355		The CSS DCCI shall provide Common facilities to IOS.
						C-CSS-10690	7330	B0	96-1355		The CSS DCCI shall accept Common facilities request from DMS.
						C-CSS-10710	7332	B0	96-1355		The CSS DCCI shall provide Common facilities to DMS.
						C-CSS-10720	7333	B0	96-1355		The CSS DCCI shall accept Common facilities request from DSS.
						C-CSS-10730	7334	B0	96-1355		The CSS DCCI shall provide Common facilities to DSS.
						C-CSS-10740	7335	B0	96-1355		The CSS DCCI shall accept Common facilities request from INS.
						C-CSS-10750	7336	B0	96-1355		The CSS DCCI shall provide Common facilities to INS.
						C-CSS-10760	7337	B0	96-1355		The CSS DCCI shall accept Common facilities request from DPS.
						C-CSS-10770	7338	B0	96-1355		The CSS DCCI shall provide Common facilities to DPS.
						C-CSS-10780	7339	B0	96-1355		The CSS DCCI shall accept Common facilities request from PLS.
						C-CSS-10790	7340	B0	96-1355		The CSS DCCI shall provide Common facilities to PLS.
						C-CSS-10800	7341	B0	96-1355		The CSS DCCI shall accept Common facilities request from MSS.
						C-CSS-10830	7344	B0	96-1355		The CSS DCCI shall provide Common facilities to MSS.
						C-CSS-60330	7373	B0	96-1355		The CSS File Access Service shall provide uninterrupted file access in the event of single failure of the server.
						C-CSS-60340	7374	B0	96-1355		The CSS File Access Service shall guarantee the accessed file to be in its most recent version.
						C-CSS-60350	7375	B0	96-1355		The CSS File Access Service shall provide capability to change directory (cd) on the remote host.
						C-CSS-61397	7377	B0	96-1355		The CSS Electronic Mail Service shall provide on-line help functionality.
						C-CSS-62317	7379	B0	96-1355		The CSS Bulletin Board Service shall provide on-line help functionality.
						C-CSS-64000	7380	B0	96-1355		The CSS Dial-Up Access Service shall provide remote Internet access.
						C-ISS-11170	7432	B0	96-1355		The ISS shall provide for connectivity between the EOC and EBnet.
						C-ISS-11180	7433	B0	96-1355		The ISS shall provide for connectivity between the EOC and NSI for EOC/IST communications.
						C-ISS-11220	7435	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the GSFC DAAC.
						C-ISS-11230	7436	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer)

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											services at the LaRC DAAC.
						C-ISS-11240	7437	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the EDC DAAC.
						C-ISS-11260	7439	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between components at the SMC.
						C-ISS-20050	7441	B0	96-1355		The ISS shall provide sufficient local area network bandwidth at the JPL DAAC to support data transfer between and among physical nodes provided in accordance with the Release B network I/O sizing listed in Appendix A of the current version of 304-CD-005.
						C-ISS-20060	7442	B0	96-1355		The ISS shall provide sufficient local area network bandwidth at the ASF DAAC to support data transfer between and among physical nodes in accordance with the Release B network I/O sizing listed in Appendix A of the current version of 304-CD-005.
						C-ISS-20070	7443	B0	96-1355		The ISS shall provide sufficient local area network bandwidth at the ORNL DAAC to support data transfer between and among physical nodes in accordance with the Release B network I/O sizing listed in Appendix A of the current version of 304-CD-005.
						C-ISS-20080	7444	B0	96-1355		The ISS shall provide sufficient local area network bandwidth at the NSIDC DAAC to support data transfer between and among physical nodes in accordance with the Release B network sizing listed in Appendix A of the current version of 304-CD-005.
						C-ISS-20120	7448	B0	96-1355		The ISS shall provide for connectivity between the EOC and EBnet for AM-1 instrument flight operations.
						C-ISS-20130	7449	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the JPL DAAC.
						C-ISS-20140	7450	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the ASF DAAC.
						C-ISS-20150	7451	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the ORNL DAAC.
						C-ISS-20160	7452	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the NSIDC DAAC.
						C-ISS-20170	7453	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the GSFC EOC.
						C-MSS-18360	7651	B0	96-1360 B		The MSS Management Data Access Service shall provide the capability for the M&O staff to load log files into the management database at the site.
						C-MSS-66001	7815	B0	96-1360 B		The MSS performance management application service shall be capable of monitoring the performance of the following ECS components a. network components 1. routers

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											2. links 3. bridges 4. gateways b. hosts c. operating systems d. peripherals e. data f. ECS applications.
						C-CSS-60600	9337	IR1			The CSS File Access Service shall provide connection oriented operation for file transfers.
						C-CSS-60620	9338	IR1			The CSS File Access Service shall support proxy mode of operation which enables transfer of files between two remote hosts.
						C-CSS-60630	9339	IR1			The CSS File Access Service shall provide capability to list remote files
						C-CSS-60640	9340	IR1			The CSS File Access Service shall support wildcards in files on the remote host.
						C-CSS-61050	9342	IR1			The CSS Electronic Mail Service shall be accessible in interactive mode.
						C-CSS-61060	9343	IR1			The CSS Electronic Mail Service shall be accessible in non-interactive mode via API.
						C-CSS-62000	9345	IR1			The CSS Bulletin Board Service shall be based on the following standards: a. TCP/IP b. NNTP c. SMTP d. Usenet message standard (RFC 850)
						C-CSS-62010	9346	IR1			The CSS Bulletin Board Service shall support multiple (configurable) bulletin boards (newsgroups).
						C-CSS-62030	9347	IR1			The CSS Bulletin Board Service shall provide concurrent access to multiple users (registered or non-registered).
						C-CSS-62040	9349	IR1			The CSS Bulletin Board Service shall allow multiple messages for each bulletin board.
						C-CSS-62100	9350	IR1			The CSS Bulletin Board Service shall provide capabilities to authorized users (M&O staff) for: a. creating new bulletin board b. deleting existing bulletin board c. deleting message(s) from a bulletin board d. backing up bulletin boards e. forcing users off a bulletin board or the entire bulletin board service for backup f. collecting access history and/or statistical information. g. backing up bulletin boards.
						C-CSS-62120	9351	IR1			The CSS Bulletin Board Service shall provide the capability to respond to a posted message on a bulletin board by sending the response message to: a. the bulletin board (follow up) b. author of the original message (respond to author) c. named destinations (forward).
						C-CSS-	9352	IR1			The CSS Bulletin Board Service shall be available to the

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						62300					users in interactive mode.
						C-CSS-62305	9353	IR1			The CSS Bulletin Board Service shall allow user to subscribe to bulletin boards.
						C-CSS-62310	9354	IR1			The CSS Bulletin Board Service shall allow user to unsubscribe bulletin boards.
						C-CSS-62320	9355	IR1			The CSS Bulletin Board Service shall allow user to select a subscribed bulletin board for viewing summary of all messages in it.
						C-CSS-62330	9356	IR1			The CSS Bulletin Board Service shall provide the capability to respond to a message by sending the response to the bulletin board and/or to the author of the message and/or any other operator specified destination.
						C-CSS-62340	9357	IR1			The CSS Bulletin Board Service shall provide capability: a. to search for a string in message headers or in message text. b. to search by author c. to search by subject.
						C-CSS-62350	9358	IR1			The CSS Bulletin Board Service shall provide a catch-up feature which excludes user specified messages from appearing in the bulletin board when it is viewed next time.
						C-CSS-62360	9359	IR1			The CSS Bulletin Board Service shall allow the users to post messages to bulletin board(s).
						C-CSS-62380	9360	IR1			The CSS Bulletin Board Service shall allow users to copy/save a message to their local system.
						C-CSS-63000	9361	IR1			The CSS Virtual Terminal shall provide a virtual device which hides the physical terminal characteristics and handling conventions from both the operator and the server host.
						C-CSS-63010	9362	IR1			The CSS Virtual Terminal shall provide means to enhance characteristics of the basic virtual device by mutual agreement between the two communicating parties (option negotiations).
						C-CSS-63020	9363	IR1			The CSS Virtual Terminal shall be based on industry standard and accepted protocols (telnet and ktelnet).
						C-CSS-63040	9364	IR1			The CSS Virtual Terminal shall provide guest access to non-registered users to log into the ECS guest server.
						C-ISS-01010	9382	IR1			The ISS shall provide an interface between the V0 WAN and the MSFC, LaRC and GSFC DAACs for the purpose of IR-1 interface testing.
						C-ISS-02010	9385	IR1			The ISS shall provide the capability to filter packets based on the port/socket of the transport layer protocol.
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-60010	9412	IR1			The MSS Fault Management Application Service shall provide the capability to create and display graphical representations of a given network topology consisting of the following: a. routers b. communication lines c. hosts

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											d. peripherals e. applications
						C-MSS-60110	9416	IR1			The MSS Fault Management Application Service shall be capable of receiving fault notifications.
						C-MSS-60200	9422	IR1			The MSS Fault Management Application Service shall have the capability to generate the following types of notifications for detected faults : a. a change in the color of an icon on a display b. a message in a pop-up notification window c. logging the following fault information to a disk log file: 1. fault type 2. date and time of occurrence of the fault 3. identification of the source of the notification (e.g. IP address, process name, etc.) 4. fault data received with the notification 5. operator-defined descriptive text d. audible alert
						C-ISS-20110	9779	B0	96-1355		The ISS shall provide for connectivity to the ASF campus network to enable transfer of data between the ASF DAAC and the ASF production systems associated with ERS-1/2, JERS-1, and RADARSAT.
						C-CSS-30040	10127	A			The Process Framework shall exit with an error status if the mode of operation and the configuration file name are not provided on the command line.
						C-CSS-30110	10134	A			The Process Framework shall provide the ability to log errors and events for both client and server processes
						C-ISS-01280	10892	A	96-1016		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between the SMC and the EOC via a GFE LAN.
						C-ISS-01040	10908	IR1	96-1020		The ISS shall provide for connectivity between the LaRC DAAC and EBnet for the ingest of L0 CERES data.
						C-CSS-60900	11117	A	96-0977A	This is done by allowing the application programmer to attach a callback which will be invoked	The CSS File Access Service shall provide an API which allows applications to transfer files.
						C-CSS-60920	11118	A	96-0977A	normal UNIX authentication incase of FTP and kerberos	The CSS File Access Service shall accept authentication information for file transfers.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
										authentication incase of KFTP	
						C-CSS-30050	11125	A	96-0977A		The Process Framework shall provide the ability for a process to get the following information: a. Mode of operation b. Executable name c. Process ID d. Application ID e. Program ID f. Major Version g. Minor Version
						C-CSS-30060	11126	A	96-0977A	a. Short name for server; i.e. CDS name b. Profile name; i.e. CDS profile c. Group name; i.e. CDS Group	The Process Framework shall provide interfaces to the underlying distributed architecture to set the following naming parameters: a. Short name for server b. Profile name c. Group name
						C-CSS-30070	11127	A	96-0977A		The Process Framework shall provide interfaces to the underlying distributed architecture to establish the server identity as identified below. a. Message Passing b. Management Agent Framework c. Server Request Framework d. Scheduled File Transfer
						C-CSS-30090	11129	A	96-0977A	Protocol policy - tcp/udp	The Process Framework shall provide an interface to the underlying distributed architecture to set the protocol policy
						C-ISS-11090	11874	B0	96-1471A		The ISS shall provide for local or metro area connectivity to V0 network nodes at the GSFC, LaRC, JPL, ASF, and NSIDC DAAC sites in order to provide interoperability between ECS and V0.
						C-ISS-20000	11876	B0	96-1471A		The ISS shall provide LANs at the following Release B sites: a. GSFC DAAC; b. GSFC EOC; c. EDC DAAC; d. LaRC DAAC; f. GSFC SMC; g. JPL DAAC; h. ASF DAAC; i. ORNL DAAC; j. NSIDC DAAC
						C-ISS-21010	11877	B0	96-1471A		The ISS-INHW CI shall provide LANs at the following sites: a. GSFC DAAC LAN b. GSFC EOC LAN c. EDC DAAC LAN d. LaRC DAAC LAN f. GSFC SMC LAN
ESN-0070#B	8729	96-1452A	The ESN shall support the intrasite elements data flow requirements identified in this specification.	ESN supports non-DAAC component services or capabilities including GSFC, SMC, and EOC (FOS) connectivity. At GSFC the ESN		C-MSS-16010	181	A			MSS Monitor/Control Service shall communicate via ECS management protocol with the Management Agent Service in test or operational mode.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
				intrasite communications include the SMC and EOC (FOS) for management data exchanges.							
						C-MSS-18260	227	A			The MSS Management Data Access Service shall have the capability to schedule the transfer and loading log files into the management database at the site.
						C-MSS-18350	234	A			The MSS Management Data Access Service shall provide the capability for an application to load log files into the management database at the site
						C-MSS-36080	437	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS Host systems
						C-MSS-36090	438	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS applications
						C-MSS-36100	439	A			The MSS Management Agent Service shall provide proxy agents for ECS network devices and applications that cannot be managed via SNMP.
						C-CSS-01010	639	A			The CSS DOF provided IDL shall support versioning of the interface supporting minor and major versions.
						C-ISS-01190	690	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 services between EOC components (in support of FOS interface testing at Release A).
						C-ISS-01270	947	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between the SMC and the GSFC DAAC.
						C-ISS-01290	949	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between the FOS EOC components and the CSMS-provided LSM within the EOC.
						C-ISS-01330	953	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between CSMS components at the LaRC DAAC.
						C-ISS-01340	954	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between CSMS and SDPS components at the LaRC DAAC.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-16060	2340	IR1			The MSS Monitor/Control Service shall allow the capability to set thresholds on managed resources that are monitored
						C-MSS-	2341	IR1			The MSS Management Agent Service shall

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						36020					communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-12005	2364	IR1			The MSS Management User Interface (MUI) Service shall be compatible with the ECS management framework.
						C-MSS-14010	2367	IR1			The MSS Maps/Collection Service shall retain the status of managed objects and their relationship to symbols that comprise a graphical representation of the physical network topology.
						C-MSS-20010	2368	IR1			The MSS Discovery Service shall discover (via network protocol) new instances of managed objects.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-20030	2370	IR1			The MSS Discovery Service shall report missing occurrences of managed objects.
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.
						C-MSS-16070	2372	IR1			The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-MSS-14030	2404	IR1			The MSS Map/Collection Service shall provide a capability to define a hierarchical relationship between maps and sub-maps (i.e., a graphical hierarchical tree)
						C-MSS-14040	2405	IR1			The MSS Map/Collection Service shall propagate events associated with objects up the hierarchical tree
						C-MSS-16005	2406	IR1			The ECS management protocol shall be the SNMP standard as specified in RFC 1157.
						C-MSS-36010	2407	IR1			The MSS Management Agent Service shall retrieve data from ECS managed objects in test or operational mode.
						C-MSS-20020	2408	IR1			The MSS Discovery Service shall detect missing occurrences of managed objects.
						C-MSS-20040	2414	IR1			The MSS Discovery Service shall update the object database after the Discovery Service receives a request to register/unregister a managed object.
						C-MSS-16100	4783	IR1			The MSS Monitor/Control Service shall perform the following protocol test on managed network nodes: a. IP test

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											b. TCP test c. SNMP test d. UDP test e. ICMP test
						C-ISS-01256	5318	A			The ISS shall provide LAN connectivity and OSI Layer 1 through 4 services between the CSMS components at the EDC DAAC.
						C-CSS-02510	7253	B0	96-1355		The CSS-DCHW CI Enterprise Communications Server peripheral CD-ROM drive shall have the following characteristic: a. Accept 600MB Compact Disk
						C-ISS-11180	7433	B0	96-1355		The ISS shall provide for connectivity between the EOC and NSI for EOC/IST communications.
						C-ISS-11220	7435	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the GSFC DAAC.
						C-ISS-11230	7436	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the LaRC DAAC.
						C-ISS-11240	7437	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the EDC DAAC.
						C-ISS-11260	7439	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between components at the SMC.
						C-ISS-20050	7441	B0	96-1355		The ISS shall provide sufficient local area network bandwidth at the JPL DAAC to support data transfer between and among physical nodes provided in accordance with the Release B network I/O sizing listed in Appendix A of the current version of 304-CD-005.
						C-ISS-20060	7442	B0	96-1355		The ISS shall provide sufficient local area network bandwidth at the ASF DAAC to support data transfer between and among physical nodes in accordance with the Release B network I/O sizing listed in Appendix A of the current version of 304-CD-005.
						C-ISS-20070	7443	B0	96-1355		The ISS shall provide sufficient local area network bandwidth at the ORNL DAAC to support data transfer between and among physical nodes in accordance with the Release B network I/O sizing listed in Appendix A of the current version of 304-CD-005.
						C-ISS-20080	7444	B0	96-1355		The ISS shall provide sufficient local area network bandwidth at the NSIDC DAAC to support data transfer between and among physical nodes in accordance with the Release B network sizing listed in Appendix A of the current version of 304-CD-005.
						C-ISS-20130	7449	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the JPL DAAC.
						C-ISS-20140	7450	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the ASF DAAC.
						C-ISS-20150	7451	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer)

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											services at the ORNL DAAC.
						C-ISS-20160	7452	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the NSIDC DAAC.
						C-ISS-20170	7453	B0	96-1355		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services at the GSFC EOC.
						C-MSS-18360	7651	B0	96-1360 B		The MSS Management Data Access Service shall provide the capability for the M&O staff to load log files into the management database at the site.
						C-MSS-18050	9117	A			The MSS Management Data Access Service's shall utilize CSS Services to access/transfer management data.
						C-ISS-01010	9382	IR1			The ISS shall provide an interface between the V0 WAN and the MSFC, LaRC and GSFC DAACs for the purpose of IR-1 interface testing.
						C-MSS-12010	9392	IR1			The MSS Management User Interface (MUI) Service shall provide a graphical user interface that is OSF/MOTIF compliant
						C-MSS-14020	9396	IR1			The MSS Map/Collection Service shall provide a capability to define maps and objects.
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-ISS-20110	9779	B0	96-1355		The ISS shall provide for connectivity to the ASF campus network to enable transfer of data between the ASF DAAC and the ASF production systems associated with ERS-1/2, JERS-1, and RADARSAT.
						C-CSS-46000	10159	A			The UR mechanism shall allow clients to access ECS object instances, without actually having the instance by providing each object instance with it's own UR.
						C-CSS-46040	10163	A			The UR mechanism shall provide a way for an external entity, like a person, or an office automation package, to transport the mechanism.
						C-CSS-46050	10164	A			The UR mechanism shall provide some human readable information about the object in the external representation.
						C-CSS-46060	10165	A			The UR mechanism shall make sure that the external representation is validated so that erroneous ECS object instance are not created.
						C-CSS-46090	10168	A			The UR mechanism shall allow additional concrete specializations of abstract base class to be added without client modification.
						C-MSS-18060	10705	A	96-0970 A		The Management Data Access Service shall provide the capability for an operator to access management data via a log browser.
						C-MSS-18070	10709	A	96-0970 A	This refers to the capability to sort and filter events in the	The MSS Management Data Access Service shall provide the capability to selectively access management data.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
										management logs.	
						C-MSS-18280	10715	A	96-0970A		MSS shall have the capability to schedule the transfer of management data at the sites to the SMC.
						C-MSS-18340	10720	A	96-0970A		The MSS Management Data Access Service shall provide the capability for an operator to selectively read a record from a log file
						C-MSS-36110	10722	A	96-0970A		The MSS Management Agent Service shall provide an ECS master agent to coordinate and communicate with multiple ECS management subagents.
						C-ISS-01280	10892	A	96-1016		The ISS shall provide LAN connectivity and OSI Layer 1 through 4 (i.e., from the physical to the transport layer) services between the SMC and the EOC via a GFE LAN.
						C-ISS-20000	11876	B0	96-1471A		The ISS shall provide LANs at the following Release B sites: a. GSFC DAAC; b. GSFC EOC; c. EDC DAAC; d. LaRC DAAC; f. GSFC SMC; g. JPL DAAC; h. ASF DAAC; i. ORNL DAAC; j. NSIDC DAAC
ESN-0080#B	8730	96-1452A	The ESN shall interface with EBnet for inter-site data transmission between ECS DAACs.	ESN is considered to be ECS DAAC networks.							
ESN-0240#B	8731	96-1452A	The ESN shall be extensible in its design to provide capability for growth and enhancement.	ESN is considered to be ECS DAAC networks.		C-MSS-00030	159	A			The MSS services shall be extensible in its design to provide capability for growth and enhancement.
						C-ISS-20100	7446	B0	96-1355		The ISS LANs shall be designed in a manner that allows a. Nodes to be added to any given LAN segment.; b. Additional LAN segments to be added to the LAN.
						C-CSS-00030	9122	A			The CSS services shall be extensible in its design to provide capability for growth and enhancement.
						C-ISS-02380	11872	B0	96-1471A		The ISS-INHW CI LANs at the GSFC, and LaRC DAAC sites shall be capable of supporting twice the R-A network traffic load estimates without redesign.
ESN-0280#B	8732	96-1452A	The ESN shall provide file transfer and management service and as a minimum shall include the capability to transfer the following data types: a. Unstructured Text b. Binary Unstructured c. Binary Sequential d. Sequential Text			C-CSS-60510	4813	IR1			The CSS File Access Service shall be capable of transferring ASCII and binary files.
						C-CSS-60610	4823	IR1			The CSS File Access Service shall allow selection of the file type (ASCII or binary).
ESN-0290#B	8733	96-1452A	The file transfer and management service shall be available in interactive and non-interactive services.			C-CSS-60310	487	A			The CSS File Access Service shall support access control for the remote files.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-CSS-60320	488	A			The CSS File Access Service shall provide location independent naming for the remote files.
						C-CSS-60500	2396	IR1			The CSS File Access Service shall provide functionality for interactive and non-interactive transfer of files (send and receive) between two host systems.
						C-CSS-60650	9341	IR1			The CSS File Access service shall support anonymous FTP which allows read access to all users.
ESN-0300#B	8734	96-1452A	The file transfer and management non-interactive services shall be able to be scheduled.			C-CSS-60820	499	A			The CSS File Access Service shall provide an option to send alarms and generate events if a scheduled operation fails.
						C-CSS-60800	11115	A	96-0977A	from OODCE server applications using MPF	The CSS File Access Service shall provide an option for scheduling file transfers in a batch mode.
						C-CSS-60810	11116	A	96-0977A		The CSS File Access Service shall log results of the non-interactive operations.
ESN-0340#B	8735	96-1452A	The ESN shall interoperate and exchange messages and data with external SMTP and X.400 mail systems.			C-CSS-61070	7376	B0	96-1355		The CSS Electronic Mail Service shall support the Post Office Protocol (POP).
						C-CSS-61010	11119	A	96-0977A	SMTP to X.400 gateway is GFE provided by GSFC to which ECS will interface using SMTP	The CSS Electronic Mail Service shall interoperate and exchange messages with external mail systems based on SMTP and X.400 protocols.
ESN-0345#B	8736	96-1452A	The ESN shall be capable of transparently transmitting Multi-purpose Internet Mail Extensions (MIME) messages.			C-CSS-61020	450	A			The CSS Electronic Mail Service shall be capable of sending and receiving the Multi-purpose Internet Mail Extensions (MIME) messages.
ESN-0350#B	8737	96-1452A	The Electronic Messaging Service, shall be capable of exchanging binary data.			C-CSS-61430	470	A			The CSS Electronic Mail Service shall allow attaching either text or binary files to a message.
						C-CSS-61810	481	A			The CSS Electronic Mail Service shall allow attaching multiple text or binary files to the mail message.
ESN-0370#B	8738	96-1452A	The ESN shall provide interactive virtual terminal services.			C-CSS-10540	7315	B0	96-1355		The CSS DCCI shall provide virtual terminal service to the User.
						C-CSS-63000	9361	IR1			The CSS Virtual Terminal shall provide a virtual device which hides the physical terminal characteristics and handling conventions from both the operator and the server host.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-CSS-63010	9362	IR1			The CSS Virtual Terminal shall provide means to enhance characteristics of the basic virtual device by mutual agreement between the two communicating parties (option negotiations).
						C-CSS-63020	9363	IR1			The CSS Virtual Terminal shall be based on industry standard and accepted protocols (telnet and ktelnet).
						C-CSS-63040	9364	IR1			The CSS Virtual Terminal shall provide guest access to non-registered users to log into the ECS guest server.
ESN-0450#B	8739	96-1452A	The ESN shall provide process-to-process communication service.			C-CSS-22065	426	A			The CSS Message Service shall log event messages to the MSS management agents whenever the message service could not deliver a message to any receiver in the time period set by the sender of the message.
						C-CSS-22000	596	A			The CSS Message service shall provide an API for senders to send messages to receivers asynchronously without waiting for the receivers to receive it.
						C-CSS-22010	597	A			The CSS Message service shall provide an API for senders to send messages to receivers in a deferred synchronously manner through an intermediary where by they can contact the intermediary at a latter time to receive the result.
						C-CSS-22040	600	A			The CSS Message Service shall provide an API for the sender to designate multiple receivers for asynchronous messages.
						C-CSS-22050	601	A			The CSS Message Service shall support multiple message queues so different groups of processes can use different message queues.
						C-CSS-22070	603	A			The CSS Message Service shall store undeliverable messages and retrieve and transmit them later.
						C-CSS-22090	605	A			The CSS Message Service shall provide the capability to locate and send (push model) the messages to receivers.
						C-CSS-22100	606	A			The CSS Message Service shall provide a non blocking API for the receiver to contact the message queue and get (pull model) the message.
						C-CSS-22110	607	A			The CSS Message service shall support guaranteed delivery of the message to the receiver.
						C-CSS-22120	608	A			The CSS Message service shall provide an API for the sender of the message to get the acknowledgment information the message service receives from the receivers.
						C-CSS-22130	609	A			The CSS Message service shall associate the receiver to a returned value and maintain that information locally until the sender requests that information.
						C-CSS-22140	610	A			The CSS Message Service shall provide an API for the sender of the message to receive return information stored at the message queue.
						C-CSS-26010	630	A			The CSS Thread Service shall allow the option that each invocation of a server operation to run as a distinct thread.
						C-CSS-26050	634	A			The CSS Thread Service shall provide a synchronizing object that is in one of two states: locked or unlocked.
						C-CSS-	638	A			The CSS DOF Service shall provide a standards-based

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						01000					Interface Definition Language (IDL) and language mappings to at least C and C++ (limited) languages.
						C-CSS-01010	639	A			The CSS DOF provided IDL shall support versioning of the interface supporting minor and major versions.
						C-CSS-01030	641	A			The CSS DOF Service shall support the passing of the general error status as a parameter in calls between the clients and servers automatically.
						C-CSS-01040	642	A			The CSS DOF Service shall provide the capability to marshal and unmarshal the arguments and the returned value transparently while making a remote procedure call.
						C-CSS-01070	645	A			The CSS DOF Service shall provide server APIs to register/unregister services in the namespaces (in different administrative domains) under different views (server/group/profile).
						C-CSS-01080	646	A			The CSS DOF Service shall provide server APIs to register/unregister different implementations of an interface in the namespace.
						C-CSS-01090	647	A			The CSS DOF Service shall provide server APIs to register/unregister individual objects implementing an interface in the namespace.
						C-CSS-01100	648	A			The CSS DOF Service shall provide server APIs to register their services using different protocols in the namespace.
						C-CSS-01130	651	A			The CSS DOF Service shall provide server APIs to limit the maximum number of threads to use in servicing the requests concurrently.
						C-CSS-01140	652	A			The CSS DOF Service shall provide client APIs to bind to services (registered in the local namespace as well as remote namespaces) by using any of the following information to achieve location transparency of services. a. a service name b. an interface name c. an object name d. a host name and communication protocol e. an object reference
						C-CSS-01150	653	A			The CSS DOF Service shall return gracefully by throwing an exception or returning an error code when it can not retrieve the binding information or can not resolve a binding.
						C-CSS-01170	655	A			The CSS DOF Service shall provide APIs to set/get the authentication service type to be used between the server and the client.
						C-CSS-01190	657	A			The CSS DOF Service shall provide APIs to maintain the integrity of the data to be passed between the client and the server.
						C-CSS-01200	658	A			The CSS DOF Service shall provide APIs to maintain the privacy of the data passed between the client and the server by encrypting and decrypting the data.
						C-CSS-01210	659	A			The CSS DOF Service shall provide APIs to set the identity of a given principal to a given process.
						C-CSS-	7342	B0	96-		The CSS DCCI shall accept lifecycle commands request

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						10810			1355		from MSS.
						C-CSS-22080	7351	B0	96-1355		The CSS Message Service shall provide an API for the receiver to register interest in receiving messages from a certain sender.
						C-CSS-22180	7352	B0	96-1355		The CSS Message Service shall provide an API that will allow thread processes to be scheduled.
						C-CSS-22190	7353	B0	96-1355		In deferred synchronous mode, the CSS Message Service shall provide an API that will allow a user to retrieve the results of the execution of a thread.
						C-CSS-22200	7354	B0	96-1355		The CSS Message Service shall provide an API that will supply the status of a thread process.
						C-CSS-22210	7355	B0	96-1355		The CSS Message Service shall provide an API that will inform the user when a thread process has finished executing.
						C-CSS-30040	10127	A			The Process Framework shall exit with an error status if the mode of operation and the configuration file name are not provided on the command line.
						C-CSS-30110	10134	A			The Process Framework shall provide the ability to log errors and events for both client and server processes
						C-CSS-30130	10136	B0	96-1355		The Process Framework shall provide interfaces to the Server Request Framework.
						C-CSS-22060	11108	A	96-0977A		The CSS Message Service shall purge a message from the message queue after an application specified time and an application specified number of tries irrespective of its delivery to the receivers.
						C-CSS-22150	11109	A	96-0977A		The CSS Message Service shall defer sending a message to a receiver, if the receiver is not active, and should try sending the message periodically with an application set interval of time and an application specified number of tries until the receiver is active.
						C-CSS-30050	11125	A	96-0977A		The Process Framework shall provide the ability for a process to get the following information: a. Mode of operation b. Executable name c. Process ID d. Application ID e. Program ID f. Major Version g. Minor Version
						C-CSS-30060	11126	A	96-0977A	a. Short name for server; i.e. CDS name b. Profile name; i.e. CDS profile c. Group name; i.e. CDS Group	The Process Framework shall provide interfaces to the underlying distributed architecture to set the following naming parameters: a. Short name for server b. Profile name c. Group name
						C-CSS-30070	11127	A	96-0977		The Process Framework shall provide interfaces to the underlying distributed architecture to establish the server

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
									A		identity as identified below. a. Message Passing b. Management Agent Framework c. Server Request Framework d. Scheduled File Transfer
						C-CSS-30090	11129	A	96-0977 A	Protocol policy - tcp/udp	The Process Framework shall provide an interface to the underlying distributed architecture to set the protocol policy
						C-CSS-30100	11130	A	96-0977 A	host policy - whether multiple instances of a server can be run on the same host	The Process Framework shall provide an interface to the underlying distributed architecture to set the host policy
ESN-0490#B	8740	96-1452A	The ESN shall provide a name-to-attribute mapping Directory Service at a minimum.			C-CSS-20085	412	A			The CSS Directory Service shall interact with the Security Service to provide principal based security to the entries in the CDS namespace and an enhanced host based security for the entries in the GDS namespace.
						C-CSS-20130	413	A			The CSS Directory Service shall provide namespaces that are compatible with the existing NASA X.500 and DNS directory services.
						C-CSS-20000	562	A			The CSS Directory service shall provide the basic functionality to save and retrieve information into the local namespace: a. Create/Delete/Get context (key) b. List context. c. Set/Get attributes. d. Create/Delete attributes. e. List attributes. f. Set/Get attribute information.
						C-CSS-20020	564	A			The CSS Directory service shall provide a mechanism to periodically update copies of the namespace from the namespace designated as the master.
						C-CSS-20070	569	A			The CSS Directory Service client shall maintain local cache to keep recently lookup information from the namespace for more efficient further lookups.
						C-CSS-20090	571	A			The CSS Directory service shall define a minimum of 20 user defined attribute types for application users to store/retrieve attribute information.
						C-CSS-20110	573	A			The CSS Directory service shall determine which naming service to use from a given context.
						C-CSS-20120	574	A			The CSS Directory service shall provide a mechanism to communicate with both X.500 and DNS naming services in resolving lookups.
						C-CSS-20025	612	A			The updating of the namespace shall be done a. automatically b. manually by the administrator.
						C-CSS-20010	11101	A	96-0977		The CSS shall provide implementations of the DNS or X.500 namespaces.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
									A		
ESN-0510#B	8741	96-1452A	The directory function shall be able to respond to requests for information concerning named objects, either physical or logical, so as to support communications with those objects.			C-CSS-20085	412	A			The CSS Directory Service shall interact with the Security Service to provide principal based security to the entries in the CDS namespace and an enhanced host based security for the entries in the GDS namespace.
						C-CSS-20130	413	A			The CSS Directory Service shall provide namespaces that are compatible with the existing NASA X.500 and DNS directory services.
						C-CSS-20000	562	A			The CSS Directory service shall provide the basic functionality to save and retrieve information into the local namespace: a. Create/Delete/Get context (key) b. List context. c. Set/Get attributes. d. Create/Delete attributes. e. List attributes. f. Set/Get attribute information.
						C-CSS-20020	564	A			The CSS Directory service shall provide a mechanism to periodically update copies of the namespace from the namespace designated as the master.
						C-CSS-20070	569	A			The CSS Directory Service client shall maintain local cache to keep recently lookup information from the namespace for more efficient further lookups.
						C-CSS-20110	573	A			The CSS Directory service shall determine which naming service to use from a given context.
						C-CSS-20120	574	A			The CSS Directory service shall provide a mechanism to communicate with both X.500 and DNS naming services in resolving lookups.
						C-CSS-20025	612	A			The updating of the namespace shall be done a. automatically b. manually by the administrator.
						C-CSS-20010	11101	A	96-0977A		The CSS shall provide implementations of the DNS or X.500 namespaces.
ESN-0590#B	8742	96-1452A	The ESN Directory Service shall be protected by access control capabilities.			C-CSS-21120	587	A			The CSS Security service shall provide an API to check the authorization privileges of principals to access/control services/resources.
						C-CSS-21000	9332	IR1			The CSS Security service shall provide an API to verify the identity of users.
ESN-0600#B	8743	96-1452A	The ESN Directory service shall include services and supporting mechanisms to authenticate the credentials of a user for the purpose of granting access rights and authorizing requested operations.			C-CSS-20080	570	A			The CSS Directory Service shall interact with the Security Service to provide host based security to the entries in the namespace.
						C-CSS-	587	A			The CSS Security service shall provide an API to check

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						21120					the authorization privileges of principals to access/control services/resources.
						C-CSS-21020	2401	IR1			The CSS Security service shall provide the capability to create/modify/delete user accounts and privileges in the security registry.
						C-CSS-21030	2402	IR1			The CSS Security service shall provide the capability to define/modify/delete group information in the security registry.
						C-CSS-21000	9332	IR1			The CSS Security service shall provide an API to verify the identity of users.
ESN-0610#B	8744	96-1452A	The ESN shall include multiple Directory Service Agents (DSAs) which shall be collectively responsible for holding or retrieving all directory information which is needed by ECS.			C-CSS-20030	565	A			The CSS Directory Service shall provide the capability to partition the namespace and distribute and maintain them at different hosts on the network.
						C-CSS-20040	566	A			The CSS Directory Service shall provide the capability to replicate partitions of the namespace on different hosts.
						C-CSS-20050	567	A			The CSS Directory service shall provide multiple directory agents which cooperate among themselves through referral and chaining to perform directory operations.
						C-CSS-20060	568	A			The CSS Directory service shall provide a way to denote the relative root of the namespace.
ESN-0620#B	8745	96-1452A	The ESN shall include a network management function to monitor and control the ESN.			C-MSS-60520	270	A			The MSS Fault Management Application Service shall provide the capability to allow the specification and execution of action routines in response to the notification of a fault.
						C-MSS-36080	437	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS Host systems
						C-MSS-36090	438	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS applications
						C-MSS-36100	439	A			The MSS Management Agent Service shall provide proxy agents for ECS network devices and applications that cannot be managed via SNMP.
						C-MSS-12120	2334	IR1			The MSS MUI Service shall provide a capability for the operator to browse MIB values.
						C-MSS-12140	2336	IR1			The MSS MUI Service shall provide the capability for an application to register and unregister managed objects.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-	2340	IR1			The MSS Monitor/Control Service shall allow the

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						16060					capability to set thresholds on managed resources that are monitored
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-MSS-60130	2345	IR1			The MSS Fault Management Application Service shall provide the capability to detect the following types of faults, errors and events: a. communications software version mismatch errors b. communication software configuration errors c. the following errors in communication hardware: 1. host not reachable 2. router not reachable 3. errors and failures of communication links d. Errors in the communications protocols supported e. degradation of performance due to established thresholds being exceeded f. Peripherals g. Databases h. Applications: 1. process missing (Application or COTS product) 2. process in a loop 3. process failed
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-14010	2367	IR1			The MSS Maps/Collection Service shall retain the status of managed objects and their relationship to symbols that comprise a graphical representation of the physical network topology.
						C-MSS-20010	2368	IR1			The MSS Discovery Service shall discover (via network protocol) new instances of managed objects.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-20030	2370	IR1			The MSS Discovery Service shall report missing occurrences of managed objects.
						C-MSS-	2371	IR1			The MSS Monitor/Control Service shall allow

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						16050					customized M&O staff-event notifications and automatic actions.
						C-MSS-16070	2372	IR1			The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-MSS-14030	2404	IR1			The MSS Map/Collection Service shall provide a capability to define a hierarchical relationship between maps and sub-maps (i.e., a graphical hierarchical tree)
						C-MSS-14040	2405	IR1			The MSS Map/Collection Service shall propagate events associated with objects up the hierarchical tree
						C-MSS-16005	2406	IR1			The ECS management protocol shall be the SNMP standard as specified in RFC 1157.
						C-MSS-20020	2408	IR1			The MSS Discovery Service shall detect missing occurrences of managed objects.
						C-MSS-20040	2414	IR1			The MSS Discovery Service shall update the object database after the Discovery Service receives a request to register/unregister a managed object.
						C-MSS-16100	4783	IR1			The MSS Monitor/Control Service shall perform the following protocol test on managed network nodes: a. IP test b. TCP test c. SNMP test d. UDP test e. ICMP test
						C-ISS-20180	7454	B0	96-1355		The ISS shall receive diagnostic test requests from the MSS.
						C-ISS-20200	7456	B0	96-1355		The ISS shall send diagnostic test requests to the MSS.
						C-MSS-66001	7815	B0	96-1360 B		The MSS performance management application service shall be capable of monitoring the performance of the following ECS components a. network components 1. routers 2. links 3. bridges 4. gateways b. hosts c. operating systems d. peripherals e. data f. ECS applications.
						C-MSS-12080	9394	IR1			The MSS MUI Service shall provide a capability for applications to alert the M&O Staff
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-	9412	IR1			The MSS Fault Management Application Service shall

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						60010					provide the capability to create and display graphical representations of a given network topology consisting of the following: a. routers b. communication lines c. hosts d. peripherals e. applications
						C-MSS-60110	9416	IR1			The MSS Fault Management Application Service shall be capable of receiving fault notifications.
						C-MSS-60200	9422	IR1			The MSS Fault Management Application Service shall have the capability to generate the following types of notifications for detected faults : a. a change in the color of an icon on a display b. a message in a pop-up notification window c. logging the following fault information to a disk log file: 1. fault type 2. date and time of occurrence of the fault 3. identification of the source of the notification (e.g. IP address, process name, etc.) 4. fault data received with the notification 5. operator-defined descriptive text d. audible alert
						C-MSS-36110	10722	A	96-0970 A		The MSS Management Agent Service shall provide an ECS master agent to coordinate and communicate with multiple ECS management subagents.
						C-MSS-60350	10735	A	96-0970 A	Diagnostics initiated manually by M&O operators.	The MSS Fault Management Application Service shall have the capability to periodically execute diagnostic tests in order to isolate, characterize and identify a fault.
						C-MSS-60420	10741	A	96-0970 A	Site configuration changes are performed by M&O operators.	The MSS Fault Management Application Service shall interface with the MSS Configuration Management Application Service and schedule a change in the configuration of the site when such a change in the configuration of the site is deemed necessary to recover from a fault.
ESN-0640#B	8748	96-1452A	The ESN shall include management functions at each ECS element, equipment or gateway within the ESN.			C-MSS-12130	2335	IR1			The MSS MUI Service shall provide the capability for the M&O Staff to register and unregister managed objects.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-16060	2340	IR1			The MSS Monitor/Control Service shall allow the capability to set thresholds on managed resources that are monitored
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-MSS-60130	2345	IR1			The MSS Fault Management Application Service shall provide the capability to detect the following types of faults, errors and events: a. communications software version mismatch errors b. communication software configuration errors c. the following errors in communication hardware: 1. host not reachable 2. router not reachable 3. errors and failures of communication links d. Errors in the communications protocols supported e. degradation of performance due to established thresholds being exceeded f. Peripherals g. Databases h. Applications: 1. process missing (Application or COTS product) 2. process in a loop 3. process failed
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-12005	2364	IR1			The MSS Management User Interface (MUI) Service shall be compatible with the ECS management framework.
						C-MSS-14010	2367	IR1			The MSS Maps/Collection Service shall retain the status of managed objects and their relationship to symbols that comprise a graphical representation of the physical network topology.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-MSS-20010	2368	IR1			The MSS Discovery Service shall discover (via network protocol) new instances of managed objects.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-20030	2370	IR1			The MSS Discovery Service shall report missing occurrences of managed objects.
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.
						C-MSS-16070	2372	IR1			The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event
						C-MSS-14030	2404	IR1			The MSS Map/Collection Service shall provide a capability to define a hierarchical relationship between maps and sub-maps (i.e., a graphical hierarchical tree)
						C-MSS-14040	2405	IR1			The MSS Map/Collection Service shall propagate events associated with objects up the hierarchical tree
						C-MSS-16005	2406	IR1			The ECS management protocol shall be the SNMP standard as specified in RFC 1157.
						C-MSS-20020	2408	IR1			The MSS Discovery Service shall detect missing occurrences of managed objects.
						C-MSS-20040	2414	IR1			The MSS Discovery Service shall update the object database after the Discovery Service receives a request to register/unregister a managed object.
						C-MSS-16100	4783	IR1			The MSS Monitor/Control Service shall perform the following protocol test on managed network nodes: a. IP test b. TCP test c. SNMP test d. UDP test e. ICMP test
						C-ISS-20180	7454	B0	96-1355		The ISS shall receive diagnostic test requests from the MSS.
						C-ISS-20200	7456	B0	96-1355		The ISS shall send diagnostic test requests to the MSS.
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-60010	9412	IR1			The MSS Fault Management Application Service shall provide the capability to create and display graphical representations of a given network topology consisting of the following: a. routers b. communication lines c. hosts d. peripherals e. applications
ESN-0650#B	8750	96-1452A	The ESN shall perform the following network management functions for each protocol stack			C-MSS-66090	249	A			The MSS Performance Management Application Service shall have the capability to collect the following performance information about communication protocol stacks on managed devices:

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
			implemented in any ECS element, and each communications facility: a. Network Configuration Management b. Network Fault Management c. Network Performance Management d. Network Security Management								a. number of transport layer messages received with errors b. number of transport layer messages requiring retransmission c. number of transport layer messages received that could not be delivered d. number of jetwork layer messages received with errors e. number of network layer messages received that could not be delivered f. number of network layer messages that were discarded
						C-MSS-70110	326	A			The MSS site Security Management Application Service shall provide the capability to specify privileges for authorized users and user groups for access to ECS resources.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-60130	2345	IR1			The MSS Fault Management Application Service shall provide the capability to detect the following types of faults, errors and events: a. communications software version mismatch errors b. communication software configuration errors c. the following errors in communication hardware: 1. host not reachable 2. router not reachable 3. errors and failures of communication links d. Errors in the communications protocols supported e. degradation of performance due to established thresholds being exceeded f. Peripherals g. Databases h. Applications: 1. process missing (Application or COTS product) 2. process in a loop 3. process failed
						C-CSS-21020	2401	IR1			The CSS Security service shall provide the capability to create/modify/delete user accounts and privileges in the security registry.
						C-CSS-21030	2402	IR1			The CSS Security service shall provide the capability to define/modify/delete group information in the security

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											registry.
						C-MSS-16005	2406	IR1			The ECS management protocol shall be the SNMP standard as specified in RFC 1157.
						C-MSS-70120	2411	IR1			The MSS site Security Management Application service shall provide the mechanism, for each ECS host, to allow or deny incoming requests from specific hosts to services.
						C-ISS-02010	9385	IR1			The ISS shall provide the capability to filter packets based on the port/socket of the transport layer protocol.
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-66010	9427	IR1			The MSS performance management application service shall be capable of monitoring ECS component protocol stack performance parameters defined in IETF RFC 1213.
						C-MSS-70100	9439	IR1			The MSS site Security Management Application Service shall provide the capability to set, maintain, and update access control information for ECS resources.
						C-MSS-70130	9440	IR1			The MSS site Security Management Application Service shall provide a command line interface and a GUI for the management of the following security databases: a. Authentication Database b. Authorization Database c. Network Database
						C-MSS-60420	10741	A	96-0970 A	Site configuration changes are performed by M&O operators.	The MSS Fault Management Application Service shall interface with the MSS Configuration Management Application Service and schedule a change in the configuration of the site when such a change in the configuration of the site is deemed necessary to recover from a fault.
						C-ISS-21010	11877	B0	96-1471 A		The ISS-INHW CI shall provide LANs at the following sites: a. GSFC DAAC LAN b. GSFC EOC LAN c. EDC DAAC LAN d. LaRC DAAC LAN f. GSFC SMC LAN
ESN-0690#B	8753	96-1452A	The ESN shall be capable of reconfiguration transparent to network users.			C-CSS-00100	598	A			The CSS Directory services shall maintain multiple copies of the namespace on different hosts to provide fault tolerance.
						C-CSS-01120	650	A			The CSS DOF Service shall provide mechanisms to shutdown a service gracefully, by allowing the servers to unregister the server information from the namespace.
						C-CSS-00020	5222	A			The CSS services shall have no single point of failure for functions associated with network databases and configuration data.
ESN-0740#B	8755	96-1452A	The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment.			C-MSS-66090	249	A			The MSS Performance Management Application Service shall have the capability to collect the following performance information about communication protocol stacks on managed devices: a. number of transport layer messages received with errors b. number of transport layer messages requiring retransmission c. number of transport layer messages

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											received that could not be delivered d. number of jetwork layer messages received with errors e. number of network layer messages received that could not be delivered f. number of network layer messages that were discarded
						C-MSS-36080	437	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS Host systems
						C-MSS-36090	438	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS applications
						C-MSS-36100	439	A			The MSS Management Agent Service shall provide proxy agents for ECS network devices and applications that cannot be managed via SNMP.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-16060	2340	IR1			The MSS Monitor/Control Service shall allow the capability to set thresholds on managed resources that are monitored
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-MSS-60130	2345	IR1			The MSS Fault Management Application Service shall provide the capability to detect the following types of faults, errors and events: a. communications software version mismatch errors b. communication software configuration errors c. the following errors in communication hardware: 1. host not reachable 2. router not reachable 3. errors and failures of communication links d. Errors in the communications protocols supported e. degradation of performance due to established thresholds being exceeded

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											f. Peripherals g. Databases h. Applications: 1. process missing (Application or COTS product) 2. process in a loop 3. process failed
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-12005	2364	IR1			The MSS Management User Interface (MUI) Service shall be compatible with the ECS management framework.
						C-MSS-14010	2367	IR1			The MSS Maps/Collection Service shall retain the status of managed objects and their relationship to symbols that comprise a graphical representation of the physical network topology.
						C-MSS-20010	2368	IR1			The MSS Discovery Service shall discover (via network protocol) new instances of managed objects.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-20030	2370	IR1			The MSS Discovery Service shall report missing occurrences of managed objects.
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.
						C-MSS-16070	2372	IR1			The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-MSS-66050	2377	IR1			The MSS performance management application service shall be capable of requesting performance data from each individual managed object: a. at configurable intervals b. on demand.
						C-MSS-66060	2378	IR1			The MSS performance management application service shall be capable of receiving requested performance data from ECS components.
						C-MSS-14030	2404	IR1			The MSS Map/Collection Service shall provide a capability to define a hierarchical relationship between maps and sub-maps (i.e., a graphical hierarchical tree)
						C-MSS-14040	2405	IR1			The MSS Map/Collection Service shall propagate events associated with objects up the hierarchical tree
						C-MSS-	2406	IR1			The ECS management protocol shall be the SNMP

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						16005					standard as specified in RFC 1157.
						C-MSS-20020	2408	IR1			The MSS Discovery Service shall detect missing occurrences of managed objects.
						C-MSS-20040	2414	IR1			The MSS Discovery Service shall update the object database after the Discovery Service receives a request to register/unregister a managed object.
						C-MSS-16100	4783	IR1			The MSS Monitor/Control Service shall perform the following protocol test on managed network nodes: a. IP test b. TCP test c. SNMP test d. UDP test e. ICMP test
						C-MSS-66040	4832	IR1			The MSS performance management application service shall be capable of specifying which available performance metrics are to be gathered from each individual managed object.
						C-ISS-02110	7407	B0	96-1355		The ISS-INHW CI physical components, and services shall have the capability to be monitored via SNMP agents.
						C-MSS-14020	9396	IR1			The MSS Map/Collection Service shall provide a capability to define maps and objects.
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-66010	9427	IR1			The MSS performance management application service shall be capable of monitoring ECS component protocol stack performance parameters defined in IETF RFC 1213.
						C-MSS-66030	9428	IR1			The MSS performance management application service shall be capable of receiving managed object definitions for each managed object.
						C-MSS-36110	10722	A	96-0970 A		The MSS Management Agent Service shall provide an ECS master agent to coordinate and communicate with multiple ECS management subagents.
ESN-0750#B	8757	96-1452A	The ESN shall provide statistical processing capabilities to allow extraction and tabulation of network performance data.			C-MSS-66171	7821	B1	96-1360 B		The MSS performance management application service shall log ECS performance data pertaining to ECS network components, ECS applications and operating system resources.
						C-MSS-66180	9430	IR1			The MSS performance management application service shall have the capability to generate the following types of statistics for a configurable period of time for performance data stored in the Management Database: a. average b. median c. maximum d. minimum e. ratios f. rates g. standard deviations.
						C-MSS-66260	9433	IR1			The MSS performance management application service shall provide queries that generate performance statistics from performance data stored in the Management

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											Database.
ESN-0760#B	8759	96-1452A	The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information.			C-MSS-60220	253	A			The MSS Fault Management Application Service shall have the capability to send the notification of a fault to registered recipients.
						C-MSS-60230	267	A			The MSS Fault Management Application Service shall have the capability of generating a notification within a maximum of five minutes of fault detection.
						C-MSS-60610	274	A			The MSS Fault Management Application Service shall have the capability to build histories for different types of errors and events detected, for the purpose of analysis.
						C-MSS-68090	355	A			The MSS Performance Management Application Service shall have the capability to generate reports from collected management data.
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-60380	2409	IR1			The MSS Fault Management Application Service at the sites shall isolate, locate, and identify faults, identify subsystem, equipment and software faults, and identify the nature of the faults detected within its site.
						C-MSS-70710	2917	IR1			The MSS Security Management Application Service shall have the capability to generate reports from collected management data.
						C-MSS-60600	4831	IR1			The MSS Fault Management Application Service shall have the capability to generate, on an interactive and on a scheduled basis, reports on performance/error data that it has been configured to collect.
						C-CSS-10860	7347	B0	96-1355		The CSS DCCI shall have the capability to send detected hardware and software fault information to MSS.
						C-MSS-60301	7811	B			The MSS Fault Management Application Service shall provide the capability to identify routes between selected pairs of hosts on the EBnet.
						C-MSS-60010	9412	IR1			The MSS Fault Management Application Service shall provide the capability to create and display graphical representations of a given network topology consisting of the following: a. routers b. communication lines c. hosts d. peripherals e. applications
						C-MSS-60200	9422	IR1			The MSS Fault Management Application Service shall have the capability to generate the following types of notifications for detected faults : a. a change in the color of an icon on

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											a display b. a message in a pop-up notification window c. logging the following fault information to a disk log file: 1. fault type 2. date and time of occurrence of the fault 3. identification of the source of the notification (e.g. IP address, process name, etc.) 4. fault data received with the notification 5. operator-defined descriptive text d. audible alert
						C-MSS-68000	9435	IR1			The MSS performance management application service shall be capable of graphically displaying the operational state of managed objects through the MUI service.
						C-MSS-68010	9436	IR1			The MSS performance management application service shall be capable of displaying M&O staff-selected performance statistics through the MUI in tabular and graphical formats.
						C-MSS-68020	9437	IR1			The MSS performance management application service shall be capable of printing M&O staff-selected performance statistics.
						C-MSS-60210	10732	A	96-0970 A	Satisfied via OA tools.	The MSS Fault Management Application Service shall maintain a list of external service providers, M&O operators, and applications to be notified in the event that a specified fault is detected.
ESN-0770#B	7231	96-0970A	The ESN query capability shall generate ad hoc statistics and reports based on parameters entered.			C-MSS-90520	164	A			The Report Generator shall have the capability to generate ad hoc reports from management data maintained in the DBMS.
						C-MSS-90530	177	A			The Report Generator shall provide the capability to format reports to include the report: a. title b. header c. footer d. page number e. date/time of report
						C-MSS-90500	190	A			The Report Generator shall be compatible with the DBMS.
						C-MSS-90510	191	A			The Report Generator shall provide a Motif based Graphical User Interface (GUI) for creating ad hoc reports.
						C-MSS-90080	222	A			The DBMS shall support mathematical operations to generate statistics from management data to include: a. average b. maximum c. minimum d. standard deviation e. sum

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											f. count g. variance
						C-MSS-68090	355	A			The MSS Performance Management Application Service shall have the capability to generate reports from collected management data.
						C-MSS-90600	368	A			The Report Generator shall provide the capability to redirect generated reports to: a. console b. disk file c. printer
						C-MSS-90570	9445	IR1			The Report Generator shall have the capability to generate charts and graphs (e.g., bar, pie, line, etc.) from management data maintained in the DBMS.
ESN-0780#B	8761	96-1452A	The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information: a. Network round trip delay b. Network reset and restart indications c. Outages and CRC errors d. Performance statistics			C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-66050	2377	IR1			The MSS performance management application service shall be capable of requesting performance data from each individual managed object: a. at configurable intervals b. on demand.
						C-MSS-66060	2378	IR1			The MSS performance management application service shall be capable of receiving requested performance data from ECS components.
						C-MSS-16100	4783	IR1			The MSS Monitor/Control Service shall perform the following protocol test on managed network nodes: a. IP test b. TCP test c. SNMP test d. UDP test e. ICMP test
						C-MSS-66080	4835	IR1			The MSS performance management application service shall be capable of retrieving the following data for all network component interfaces: a. operational status b. type c. speed

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											d. octets in/out e. packets in/out f. discards in/out g. errors in/out
						C-ISS-02050	9388	IR1			The ISS shall provide ICMP network layer service as specified by RFC 792.
						C-MSS-68010	9436	IR1			The MSS performance management application service shall be capable of displaying M&O staff-selected performance statistics through the MUI in tabular and graphical formats.
						C-MSS-68020	9437	IR1			The MSS performance management application service shall be capable of printing M&O staff-selected performance statistics.
ESN-0790#B	8762	96-1452A	The ESN shall include the following configuration management functions at a minimum: a. collect information describing the state of the network subsystem and its communications resources, b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected, c. store the configuration information collected, and d. display the configuration information			C-MSS-36080	437	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS Host systems
						C-MSS-36090	438	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS applications
						C-MSS-36100	439	A			The MSS Management Agent Service shall provide proxy agents for ECS network devices and applications that cannot be managed via SNMP.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-16060	2340	IR1			The MSS Monitor/Control Service shall allow the capability to set thresholds on managed resources that are monitored
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-14010	2367	IR1			The MSS Maps/Collection Service shall retain the status of managed objects and their relationship to symbols that comprise a graphical representation of the physical network topology.
						C-MSS-20010	2368	IR1			The MSS Discovery Service shall discover (via network protocol) new instances of managed objects.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-20030	2370	IR1			The MSS Discovery Service shall report missing occurrences of managed objects.
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-MSS-36010	2407	IR1			The MSS Management Agent Service shall retrieve data from ECS managed objects in test or operational mode.
						C-MSS-20020	2408	IR1			The MSS Discovery Service shall detect missing occurrences of managed objects.
						C-MSS-66080	4835	IR1			The MSS performance management application service shall be capable of retrieving the following data for all network component interfaces: a. operational status b. type c. speed d. octets in/out e. packets in/out f. discards in/out g. errors in/out
						C-MSS-66121	7816	B0	96-1360 B		The MSS performance management application service shall be capable of determining the operational state of all network components, hosts, and peripherals to be: a. on-line b. off-line c. in test mode d. In maintenance, e. in simulation mode.
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-MSS-60010	9412	IR1			The MSS Fault Management Application Service shall provide the capability to create and display graphical representations of a given network topology consisting of the following: a. routers b. communication lines c. hosts d. peripherals e. applications
						C-MSS-60020	9413	IR1			The MSS Fault Management Application Service shall provide the capability to define categories of faults.
						C-MSS-60190	9421	IR1			The MSS Fault Management Application Service shall use the Logging Services to record each detected fault.
						C-MSS-36110	10722	A	96-0970 A		The MSS Management Agent Service shall provide an ECS master agent to coordinate and communicate with multiple ECS management subagents.
ESN-0800#B	6336		The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the SMC.	All applicable sites		C-MSS-12040	2329	IR1			The MSS MUI Service shall provide a capability for an application to add/delete a symbol and to modify a symbol's shape, color and position
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-14010	2367	IR1			The MSS Maps/Collection Service shall retain the status of managed objects and their relationship to symbols that comprise a graphical representation of the physical network topology.
						C-MSS-14030	2404	IR1			The MSS Map/Collection Service shall provide a capability to define a hierarchical relationship between maps and sub-maps (i.e., a graphical hierarchical tree)
						C-MSS-14040	2405	IR1			The MSS Map/Collection Service shall propagate events associated with objects up the hierarchical tree
						C-MSS-60161	7792	B0	96-1360 B		The MSS EMC Fault Management Application Service shall have the capability to receive notifications of detected faults and degradation of performance from: a. Site fault management applications b. EBnet c. ASTER d. NOAA (SAA) e. Landsat(MMO) f. NSI g. NOLAN
						C-MSS-60171	7793	B			The MSS EMC Fault Management Application Service shall be capable of requesting fault notification and performance degradation data from : a. Site Fault Management Applications b. EBnet c. ASTER d. NOAA(SAA)

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											e. Landsat(MMO) f. NSI g. NOLAN
						C-MSS-12010	9392	IR1			The MSS Management User Interface (MUI) Service shall provide a graphical user interface that is OSF/MOTIF compliant
						C-MSS-14020	9396	IR1			The MSS Map/Collection Service shall provide a capability to define maps and objects.
						C-MSS-60200	9422	IR1			The MSS Fault Management Application Service shall have the capability to generate the following types of notifications for detected faults : a. a change in the color of an icon on a display b. a message in a pop-up notification window c. logging the following fault information to a disk log file: 1. fault type 2. date and time of occurrence of the fault 3. identification of the source of the notification (e.g. IP address, process name, etc.) 4. fault data received with the notification 5. operator-defined descriptive text d. audible alert
						C-MSS-68000	9435	IR1			The MSS performance management application service shall be capable of graphically displaying the operational state of managed objects through the MUI service.
ESN-0810#B	8763	96-1452A	ESN shall provide the following fault management functions at a minimum: a. detect the occurrence of faults, b. control the collection of fault information, and c. diagnose the probable cause of a detected fault			C-MSS-60030	237	A			The MSS Fault Management Application Service shall provide the capability to assign faults to categories.
						C-MSS-60040	238	A			The MSS Fault Management Application Service shall provide the capability to assign severity levels to faults.
						C-MSS-60050	239	A			The MSS Fault Management Application Service shall be capable of providing the Management Data Access Service with a configurable list of fault categories that specify whether to enable or disable the logging of fault notifications for that fault category.
						C-MSS-60060	240	A			The MSS Fault Management Application Service shall provide the capability to enable or disable the display of fault notifications received from a specific managed object based on fault category assigned to that fault.
						C-MSS-60070	241	A			The MSS Fault Management Application Service shall provide the capability to specify additional information to

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											be added to a disk log file, based on the fault category, when the notification of a fault is received.
						C-MSS-36080	437	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS Host systems
						C-MSS-36090	438	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS applications
						C-MSS-36100	439	A			The MSS Management Agent Service shall provide proxy agents for ECS network devices and applications that cannot be managed via SNMP.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-14010	2367	IR1			The MSS Maps/Collection Service shall retain the status of managed objects and their relationship to symbols that comprise a graphical representation of the physical network topology.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-MSS-14040	2405	IR1			The MSS Map/Collection Service shall propagate events associated with objects up the hierarchical tree
						C-MSS-20020	2408	IR1			The MSS Discovery Service shall detect missing occurrences of managed objects.
						C-MSS-60301	7811	B			The MSS Fault Management Application Service shall provide the capability to identify routes between selected pairs of hosts on the EBnet.
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-60010	9412	IR1			The MSS Fault Management Application Service shall provide the capability to create and display graphical representations of a given network topology consisting of the following:

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											a. routers b. communication lines c. hosts d. peripherals e. applications
						C-MSS-60020	9413	IR1			The MSS Fault Management Application Service shall provide the capability to define categories of faults.
						C-MSS-60100	9415	IR1			The MSS Fault Management Application Service shall have the capability to poll for the detection of fault/performance information.
						C-MSS-60110	9416	IR1			The MSS Fault Management Application Service shall be capable of receiving fault notifications.
						C-MSS-60120	9417	IR1			The MSS Fault Management Application Service shall have the capability to define the frequency with which polling is done for the detection of fault/performance information.
						C-MSS-60150	9419	IR1			The MSS Fault Management Application Service shall have the capability to receive fault notifications from the Management Agent Service.
						C-MSS-60200	9422	IR1			The MSS Fault Management Application Service shall have the capability to generate the following types of notifications for detected faults : a. a change in the color of an icon on a display b. a message in a pop-up notification window c. logging the following fault information to a disk log file: 1. fault type 2. date and time of occurrence of the fault 3. identification of the source of the notification (e.g. IP address, process name, etc.) 4. fault data received with the notification 5. operator-defined descriptive text d. audible alert
ESN-0815#B	8765	96-1452A	Network simulation and traffic modeling capability shall be provided to troubleshoot network problems and to use in network planning.			C-MSS-69020	10766	A	96-0970 A	Benchmark tests are initiated manually by M&O operators.	The MSS performance management application service shall be capable of performing operational benchmark tests.
						C-MSS-69030	10767	A	96-0970 A	Satisfied via OA tools.	The MSS performance management application service shall be capable of providing results of benchmark tests and results of predefined tests to the M&O staff for validation.
ESN-0830#B	6342		The ESN shall have the capability to detect and report communications related errors and events both locally and at the			C-MSS-60220	253	A			The MSS Fault Management Application Service shall have the capability to send the notification of a fault to registered recipients.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
			SMC.								
						C-MSS-36100	439	A			The MSS Management Agent Service shall provide proxy agents for ECS network devices and applications that cannot be managed via SNMP.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-16060	2340	IR1			The MSS Monitor/Control Service shall allow the capability to set thresholds on managed resources that are monitored
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-MSS-60130	2345	IR1			The MSS Fault Management Application Service shall provide the capability to detect the following types of faults, errors and events: a. communications software version mismatch errors b. communication software configuration errors c. the following errors in communication hardware: 1. host not reachable 2. router not reachable 3. errors and failures of communication links d. Errors in the communications protocols supported e. degradation of performance due to established thresholds being exceeded f. Peripherals g. Databases h. Applications: 1. process missing (Application or COTS product) 2. process in a loop 3. process failed
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											traps/events to the Monitor/Control Service.
						C-MSS-20010	2368	IR1			The MSS Discovery Service shall discover (via network protocol) new instances of managed objects.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-20030	2370	IR1			The MSS Discovery Service shall report missing occurrences of managed objects.
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.
						C-MSS-16070	2372	IR1			The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event
						C-MSS-14040	2405	IR1			The MSS Map/Collection Service shall propagate events associated with objects up the hierarchical tree
						C-MSS-20020	2408	IR1			The MSS Discovery Service shall detect missing occurrences of managed objects.
						C-CSS-10870	7348	B0	96-1355		The CSS DCCI shall have the capability to send event notification to MSS.
						C-MSS-12080	9394	IR1			The MSS MUI Service shall provide a capability for applications to alert the M&O Staff
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-18280	10715	A	96-0970 A		MSS shall have the capability to schedule the transfer of management data at the sites to the SMC.
ESN-0840#B	8767	96-1452A	The ESN shall have error reporting, event logging and generation of alerts.			C-MSS-36080	437	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS Host systems
						C-MSS-36090	438	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS applications
						C-MSS-36100	439	A			The MSS Management Agent Service shall provide proxy agents for ECS network devices and applications that cannot be managed via SNMP.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-16060	2340	IR1			The MSS Monitor/Control Service shall allow the capability to set thresholds on managed resources that are monitored
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
											MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-CSS-28000	2344	IR1			CSS Event Logger Service shall provide capability to record event and history data to a application specific log file.
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-20030	2370	IR1			The MSS Discovery Service shall report missing occurrences of managed objects.
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.
						C-MSS-16070	2372	IR1			The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-MSS-14040	2405	IR1			The MSS Map/Collection Service shall propagate events associated with objects up the hierarchical tree
						C-MSS-16005	2406	IR1			The ECS management protocol shall be the SNMP standard as specified in RFC 1157.
						C-MSS-20020	2408	IR1			The MSS Discovery Service shall detect missing occurrences of managed objects.
						C-CSS-28020	4810	IR1			CSS Event Logger Service shall accept and record the application information (name and version of the calling application).
						C-CSS-28030	4811	IR1			CSS Event Logger Service shall accept and record event message information.
						C-CSS-28040	4812	IR1			CSS Event Logger Service shall accept and record the event type information. (Type of the event: fault, performance)
						C-CSS-28025	4895	A			CSS Event Logger Service shall support predetermined logging levels that provide different levels of information.
						C-CSS-28010	9333	IR1			CSS Event Logger Service shall accept and record event time (when the event was generated, obtained from the Time Service) information.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-CSS-28060	9334	IR1			CSS Event Logger Service shall inform M&O staff if the event disposition narrative by the application demands so.
						C-CSS-28070	9335	IR1			CSS Event Logger Service shall record the operator/principle information that is relevant for the generated event.
						C-CSS-28080	9336	IR1			CSS Event Logger Service shall record the environment information for the generated event.
						C-MSS-12080	9394	IR1			The MSS MUI Service shall provide a capability for applications to alert the M&O Staff
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-60200	9422	IR1			The MSS Fault Management Application Service shall have the capability to generate the following types of notifications for detected faults : a. a change in the color of an icon on a display b. a message in a pop-up notification window c. logging the following fault information to a disk log file: 1. fault type 2. date and time of occurrence of the fault 3. identification of the source of the notification (e.g. IP address, process name, etc.) 4. fault data received with the notification 5. operator-defined descriptive text d. audible alert
						C-MSS-36110	10722	A	96-0970 A		The MSS Management Agent Service shall provide an ECS master agent to coordinate and communicate with multiple ECS management subagents.
ESN-0900#B	8769	96-1452A	Errors and events to be detected shall include at least: a. communications software version or configuration errors b. communications hardware errors c. protocol errors d. performance degradation conditions e. telecommunications errors and failures			C-MSS-36080	437	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS Host systems
						C-MSS-36100	439	A			The MSS Management Agent Service shall provide proxy agents for ECS network devices and applications that cannot be managed via SNMP.
						C-MSS-12140	2336	IR1			The MSS MUI Service shall provide the capability for an application to register and unregister managed objects.
						C-MSS-12180	2337	IR1			The MSS MUI Service shall provide the capability for an application to display on-line help windows
						C-MSS-	2338	IR1			The MSS Monitor/Control Service shall communicate

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						16020					via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-CSS-28000	2344	IR1			CSS Event Logger Service shall provide capability to record event and history data to a application specific log file.
						C-MSS-60130	2345	IR1			The MSS Fault Management Application Service shall provide the capability to detect the following types of faults, errors and events: a. communications software version mismatch errors b. communication software configuration errors c. the following errors in communication hardware: 1. host not reachable 2. router not reachable 3. errors and failures of communication links d. Errors in the communications protocols supported e. degradation of performance due to established thresholds being exceeded f. Peripherals g. Databases h. Applications: 1. process missing (Application or COTS product) 2. process in a loop 3. process failed
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.
						C-MSS-16070	2372	IR1			The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event
						C-CSS-28020	4810	IR1			CSS Event Logger Service shall accept and record the application information (name and version of the calling application).
						C-CSS-28030	4811	IR1			CSS Event Logger Service shall accept and record event message information.
						C-CSS-28040	4812	IR1			CSS Event Logger Service shall accept and record the event type information. (Type of the event: fault, performance)
						C-CSS-28025	4895	A			CSS Event Logger Service shall support predetermined logging levels that provide different levels of information.
						C-CSS-28010	9333	IR1			CSS Event Logger Service shall accept and record event time (when the event was generated, obtained from the Time Service) information.
						C-CSS-28060	9334	IR1			CSS Event Logger Service shall inform M&O staff if the event disposition narrative by the application demands so.
						C-CSS-28070	9335	IR1			CSS Event Logger Service shall record the operator/principle information that is relevant for the generated event.
						C-CSS-28080	9336	IR1			CSS Event Logger Service shall record the environment information for the generated event.
						C-MSS-12080	9394	IR1			The MSS MUI Service shall provide a capability for applications to alert the M&O Staff
						C-MSS-12090	9395	IR1			The MSS MUI Service shall provide a capability for applications to establish a dialog session with the M&O Staff
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
ESN-0910#B	6346		The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the SMC: a. set, view, and change alert threshold values b. enable and disable alert notifications (alarms) within a system c. enable and disable event reports within a system d. manage error and event logging files			C-MSS-12070	207	IR1			The MSS MUI Service shall have the capability to provide options and methods to the M&O Staff for screen configuration changes (color, symbol placement, etc) and for retaining the changes from session to session
						C-MSS-18260	227	A			The MSS Management Data Access Service shall have the capability to schedule the transfer and loading log files into the management database at the site.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-MSS-18270	228	A			The MSS Management Data Access Service shall have the capability to schedule the archiving of log files at the site.
						C-MSS-60050	239	A			The MSS Fault Management Application Service shall be capable of providing the Management Data Access Service with a configurable list of fault categories that specify whether to enable or disable the logging of fault notifications for that fault category.
						C-MSS-60060	240	A			The MSS Fault Management Application Service shall provide the capability to enable or disable the display of fault notifications received from a specific managed object based on fault category assigned to that fault.
						C-MSS-12030	2328	IR1			The MSS MUI Service shall provide a capability for the M&O Staff to add/delete a symbol and to modify a symbol's shape, color and position
						C-MSS-12040	2329	IR1			The MSS MUI Service shall provide a capability for an application to add/delete a symbol and to modify a symbol's shape, color and position
						C-MSS-12050	2330	IR1			The MSS MUI Service shall provide a capability for the M&O Staff to add, delete, and modify text strings
						C-MSS-12060	2331	IR1			The MSS MUI Service shall provide a capability for an application to add, delete, and modify text strings
						C-MSS-12100	2332	IR1			The MSS MUI Service shall provide a capability for the M&O Staff to load and unload vendor or ECS defined MIB.
						C-MSS-12120	2334	IR1			The MSS MUI Service shall provide a capability for the operator to browse MIB values.
						C-MSS-12130	2335	IR1			The MSS MUI Service shall provide the capability for the M&O Staff to register and unregister managed objects.
						C-MSS-12140	2336	IR1			The MSS MUI Service shall provide the capability for an application to register and unregister managed objects.
						C-MSS-12180	2337	IR1			The MSS MUI Service shall provide the capability for an application to display on-line help windows
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-16060	2340	IR1			The MSS Monitor/Control Service shall allow the capability to set thresholds on managed resources that are monitored
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-	2342	IR1			The MSS Management Agent Service shall

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						36050					communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-CSS-28000	2344	IR1			CSS Event Logger Service shall provide capability to record event and history data to a application specific log file.
						C-MSS-60130	2345	IR1			The MSS Fault Management Application Service shall provide the capability to detect the following types of faults, errors and events: a. communications software version mismatch errors b. communication software configuration errors c. the following errors in communication hardware: 1. host not reachable 2. router not reachable 3. errors and failures of communication links d. Errors in the communications protocols supported e. degradation of performance due to established thresholds being exceeded f. Peripherals g. Databases h. Applications: 1. process missing (Application or COTS product) 2. process in a loop 3. process failed
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.
						C-MSS-16070	2372	IR1			The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-CSS-	4810	IR1			CSS Event Logger Service shall accept and record the

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						28020					application information (name and version of the calling application).
						C-CSS-28030	4811	IR1			CSS Event Logger Service shall accept and record event message information.
						C-CSS-28040	4812	IR1			CSS Event Logger Service shall accept and record the event type information. (Type of the event: fault, performance)
						C-CSS-28025	4895	A			CSS Event Logger Service shall support predetermined logging levels that provide different levels of information.
						C-MSS-12110	9114	IR1			The MSS MUI Service shall provide a capability for applications to load and unload vendor or ECS defined MIB.
						C-CSS-28010	9333	IR1			CSS Event Logger Service shall accept and record event time (when the event was generated, obtained from the Time Service) information.
						C-CSS-28060	9334	IR1			CSS Event Logger Service shall inform M&O staff if the event disposition narrative by the application demands so.
						C-CSS-28070	9335	IR1			CSS Event Logger Service shall record the operator/principle information that is relevant for the generated event.
						C-CSS-28080	9336	IR1			CSS Event Logger Service shall record the environment information for the generated event.
						C-MSS-12020	9393	IR1			The MSS MUI Service shall have the capability to respond to keyboard and mouse input devices
						C-MSS-12080	9394	IR1			The MSS MUI Service shall provide a capability for applications to alert the M&O Staff
						C-MSS-12090	9395	IR1			The MSS MUI Service shall provide a capability for applications to establish a dialog session with the M&O Staff
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-60080	9414	IR1			The MSS Fault Management Application Service shall have the capability to establish, view, modify and delete thresholds on performance metrics it measures.
						C-MSS-18200	10712	A	96-0970 A	Applications log events via API. MDA uses data in the logs to update the management database.	The MSS Management Data Access Service shall provide the capability for an application via APIs to append information to the management database.
						C-MSS-18220	10714	A	96-0970 A		MSS shall provide the capability for an application via APIs to alter tables and fields in the management database.
						C-MSS-18280	10715	A	96-0970 A		MSS shall have the capability to schedule the transfer of management data at the sites to the SMC.
ESN-	8772	96-				C-MSS-	2410	IR1			The MSS Fault Management Application Service shall

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
0920#B		1452A	The ESN shall provide a set of utilities to perform diagnostic and testing functions for purposes of fault isolation.			60310					provide utilities to perform diagnostics and testing of the following for the purpose of fault isolation: a. connectivity between pairs of ECS hosts and ECS routers b. ability to reach hosts and routers c. availability of network services at hosts
ESN-1000#B	6263		The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical.			C-CSS-25130	534	A			The CSS Time Service shall have the capability to synchronize it's time to one or more external time sources.
						C-CSS-25140	542	A			The CSS Time Service shall maintain an accuracy of 500 milliseconds within all ECS distributed components.
						C-CSS-25030	615	A			The CSS Time Service shall provide an API to retrieve timestamp information.
						C-CSS-25040	616	A			The CSS Time Service shall provide an API for converting between binary timestamps that use different time structures.
						C-CSS-25050	617	A			The CSS Time Service shall provide an API for converting between binary timestamps and ASCII representations.
						C-CSS-25060	618	A			The CSS Time Service shall provide an API for converting between UTC time and local time.
						C-CSS-25070	619	A			The CSS Time Service shall provide an API for manipulating binary timestamps.
						C-CSS-25080	620	A			The CSS Time Service shall provide an API for comparing two binary time values.
						C-CSS-25090	621	A			The CSS Time Service shall provide an API for calculating binary time values.
						C-CSS-25100	622	A			The CSS Time Service shall provide an API for obtaining time zone information.
						C-CSS-25110	623	A			The CSS Time Service shall utilize a UTC based time provider.
						C-MSS-18072	10009	B1	96-1360 B		The MSS Management Data Access Service shall have the capability to chain management events to their ancestor management events.
						C-MSS-18074	10010	B1	96-1360 B		The MSS Management Data Access Service event chaining tool shall provide user access via the MDA user interface.
						C-MSS-66181	10032	B1	96-1360 B		The MSS Performance Management Application Service shall have the capability to capture and save histories of system errors and events for system analysis and trending.
						C-MSS-66182	10033	B1	96-1360 B		The MSS Performance Management Application Service shall have the capability to capture and save histories of operational status, performance of resources and maintenance activities for system analysis and trending.
						C-MSS-69100	10035	B1	96-1360		The MSS Performance Trending Service shall have the capability to save and retrieve data from the

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
									B		management database for long and short term trending.
						C-MSS-69150	10039	B0	96-1360 B		The MSS Performance Trending Service shall have the capability to perform short and long term trending by system, site and element.
						C-CSS-25010	11111	A	96-0977 A	Adjustment is done gradually through the OSF DTS Time service	The CSS Time Service shall adjust the time kept by the operating system at every node.
						C-CSS-25020	11112	A	96-0977 A		The CSS Time Service shall provide the functionality to obtain timestamps that are based on Coordinated Universal Time (UTC).
						C-CSS-25120	11113	A	96-0977 A	through OSF DTS Time service	The CSS Time Service shall provide the utilities required to synchronize system time across all components.
						C-CSS-25155	11140	A	96-0977 A		The CSS TIME service shall provide a simulated time given a delta time value
						C-CSS-25180	11143	A	96-0977 A		The CSS time service shall provide an API for obtaining the current time as a rogue wave object
						C-CSS-25165	11217	A	96-0977 A		The CSS time service shall provide a simulated time given an absolute time value
						C-CSS-25175	11218	A	96-0977 A		The CSS time service shall accept delta or absolute time value to be used for simulated time from the cell directory service or a string
ESN-1010#B	8774	96-1452A	The ESN shall provide, for selective use as a debugging aid, the capability to perform packet tracing of its supported protocols.			C-MSS-60320	256	A			The MSS Fault Management Application Service shall provide, for selective use as a debugging aid, the capability to perform packet tracing of protocols used in ECS.
						C-MSS-16100	4783	IR1			The MSS Monitor/Control Service shall perform the following protocol test on managed network nodes: a. IP test b. TCP test c. SNMP test d. UDP test e. ICMP test
						C-ISS-02200	7408	B0	96-1355		The ISS-INHW CI LAN Analysis Equipment shall provide protocol analysis through the transport layer for all ISS LAN protocols and interconnection protocols to MANs/WANs.
						C-ISS-02210	7409	B0	96-1355		The ISS-INHW CI LAN Analysis Equipment shall include a Communications line monitor.
						C-ISS-02220	7410	B0	96-1355		The ISS-INHW CI communications line monitor shall store and display up to 10,000 bytes of data sent and received over any of the communications lines at rates of 10Mbits/sec to 100Mbits/sec.

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						C-ISS-02230	7411	B0	96-1355		The ISS-INHW CI communications line monitor shall support the protocols used within and interconnecting the ECS.
						C-ISS-02250	7413	B0	96-1355		The ISS-INHW CI LAN Analysis Equipment shall include Local Area Network analyzers.
ESN-1030#B	8776	96-1452A	The ESN shall perform periodic testing of alternate communication capabilities to verify that they are operational.			C-MSS-60330	257	A			The MSS Fault Management Application Service at each site shall have the capability to perform periodic testing of all ECS communication links at that site to verify that they are operational.
						C-MSS-16100	4783	IR1			The MSS Monitor/Control Service shall perform the following protocol test on managed network nodes: a. IP test b. TCP test c. SNMP test d. UDP test e. ICMP test
ESN-1060#B	8777	96-1452A	The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities.			C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-16060	2340	IR1			The MSS Monitor/Control Service shall allow the capability to set thresholds on managed resources that are monitored
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-16040	2369	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events.
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-MSS-16070	2372	IR1			The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-MSS-66230	2374	IR1			The MSS performance management application service shall allow each performance metric threshold to be configurable.
						C-MSS-66240	2375	IR1			The MSS performance management application service shall be capable of evaluating each performance metric against defined thresholds.
						C-MSS-66130	4785	IR1			The MSS performance management application service shall be capable of receiving operational state change notifications from network components, hosts, applications, and peripherals.
						C-MSS-66121	7816	B0	96-1360 B		The MSS performance management application service shall be capable of determining the operational state of all network components, hosts, and peripherals to be: a. on-line b. off-line c. in test mode d. In maintenance, e. in simulation mode.
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-66190	9431	IR1			The MSS performance management application service shall provide a configurable number of thresholds for each performance metric.
						C-MSS-66200	9432	IR1			The MSS EMC performance management application service shall be capable of creating a list of suggested initial threshold values for each performance metric.
ESN-1065#B	8778	96-1452A	The ESN performance management function shall include trend analysis for prediction of loading and bottlenecks/delays.			C-MSS-67000	306	A			The MSS performance management application service shall be capable of extracting values of performance metrics gathered for a specified managed objects over a configurable period of time from the Management Database.
						C-MSS-67010	307	A			The MSS performance management application service shall be capable of generating a graph of the extracted performance metric values.
ESN-1070#B	8779	96-1452A	The ESN shall provide the capability to perform the following functions, at a minimum: a. generate/collect network statistics b. control collection/generation of network statistics			C-MSS-90080	222	A			The DBMS shall support mathematical operations to generate statistics from management data to include: a. average b. maximum c. minimum d. standard deviation e. sum f. count

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
			c. store system statistics and statistical histories d. display the system statistics e. track end-to-end transaction performance								g. variance
						C-MSS-18350	234	A			The MSS Management Data Access Service shall provide the capability for an application to load log files into the management database at the site
						C-MSS-36080	437	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS Host systems
						C-MSS-36090	438	A			The MSS Management Agent Service shall provide an extensible ECS management agent for ECS applications
						C-MSS-36100	439	A			The MSS Management Agent Service shall provide proxy agents for ECS network devices and applications that cannot be managed via SNMP.
						C-MSS-16020	2338	IR1			The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to request management data on a managed object.
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-12005	2364	IR1			The MSS Management User Interface (MUI) Service shall be compatible with the ECS management framework.
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-MSS-66250	2376	IR1			The MSS performance management application service shall record an event in the local History Log whenever a threshold is crossed.
						C-MSS-36010	2407	IR1			The MSS Management Agent Service shall retrieve data from ECS managed objects in test or operational mode.
						C-MSS-18360	7651	B0	96-1360 B		The MSS Management Data Access Service shall provide the capability for the M&O staff to load log files into the management database at the site.
						C-MSS-12010	9392	IR1			The MSS Management User Interface (MUI) Service shall provide a graphical user interface that is OSF/MOTIF compliant

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-66180	9430	IR1			The MSS performance management application service shall have the capability to generate the following types of statistics for a configurable period of time for performance data stored in the Management Database: a. average b. median c. maximum d. minimum e. ratios f. rates g. standard deviations.
						C-MSS-66260	9433	IR1			The MSS performance management application service shall provide queries that generate performance statistics from performance data stored in the Management Database.
						C-MSS-66270	9434	IR1			The MSS performance management application service shall store generated performance statistics.
						C-MSS-68010	9436	IR1			The MSS performance management application service shall be capable of displaying M&O staff-selected performance statistics through the MUI in tabular and graphical formats.
						C-MSS-68020	9437	IR1			The MSS performance management application service shall be capable of printing M&O staff-selected performance statistics.
						C-MSS-18070	10709	A	96-0970 A	This refers to the capability to sort and filter events in the managemen t logs.	The MSS Management Data Access Service shall provide the capability to selectively access management data.
						C-MSS-18340	10720	A	96-0970 A		The MSS Management Data Access Service shall provide the capability for an operator to selectively read a record from a log file
						C-MSS-36110	10722	A	96-0970 A		The MSS Management Agent Service shall provide an ECS master agent to coordinate and communicate with multiple ECS management subagents.
ESN-1090#B	8782	96-1452A	The ESN shall provide the capability to control the communications performance parameters of the network.			C-MSS-16030	2339	IR1			The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent.
						C-MSS-16060	2340	IR1			The MSS Monitor/Control Service shall allow the capability to set thresholds on managed resources that are monitored
						C-MSS-36020	2341	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-MSS-36050	2342	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service.
						C-MSS-36040	2346	IR1			The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service.
						C-MSS-16050	2371	IR1			The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions.
						C-MSS-16070	2372	IR1			The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-MSS-66230	2374	IR1			The MSS performance management application service shall allow each performance metric threshold to be configurable.
						C-MSS-66240	2375	IR1			The MSS performance management application service shall be capable of evaluating each performance metric against defined thresholds.
						C-MSS-16005	2406	IR1			The ECS management protocol shall be the SNMP standard as specified in RFC 1157.
						C-MSS-36010	2407	IR1			The MSS Management Agent Service shall retrieve data from ECS managed objects in test or operational mode.
						C-MSS-36070	9397	IR1			The MSS Management Agent Service shall provide an ECS management agent for network devices
						C-MSS-66190	9431	IR1			The MSS performance management application service shall provide a configurable number of thresholds for each performance metric.
ESN-1140#B	8783	96-1452A	The ESN shall provide protocol translation, termination, bridging and routing.			C-ISS-02060	2348	IR1			The ISS shall provide network layer services in compliance with one or more of the following protocols as appropriate to the type of the physical network supported. a. IP over Ethernet as specified in RFCs 894, 895, 826 (ARP), 903 (RARP) b. IP over FDDI as specified in RFC 1188, 1390 (ARP, RARP) c. IP over HiPPI as specified in RFC 1374 (includes ARP, RARP) d. IP over SMDS as specified in RFC 1209 (includes ARP, RARP)
ESN-1170#B	8785	96-1452A	The ESN shall provide necessary translation within supported file transfer and e-mail services.			C-CSS-60520	2349	IR1			The CSS File Access Service shall support the File Transfer Protocol (FTP).

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-CSS-61040	2350	IR1			The CSS Electronic Mail Service shall provide translation between SMTP and X.400 protocol.
ESN-1180#B	8786	96-1452A	The ESN shall interoperate with NSI to provide user access to ECS.			C-ISS-11020	11873	B0	96-1471A		The ISS shall interface with NSI at GSFC, LaRC, EDC, JPL, NSIDC, ORNL, and ASF to provide DAAC access to science users in accordance with the following documents: a. DID 220, "Communications Requirements for the ECS Project" 194-220-SE3-001 b. Interface Requirements Document between EOSDIS Core System (ECS) and the NASA Science Internet (NSI), 194-219-SE1-001
ESN-1181#B	8787	96-1452A	The ESN shall provide an ECS Bulletin Board capability.			C-CSS-62060	509	A			The CSS Bulletin Board Service shall provide the capability for copying files.
						C-CSS-62070	510	A			The CSS Bulletin Board Service shall support download of ECS toolkits.
						C-CSS-62080	511	A			The CSS Bulletin Board Service shall collect and maintain access history and statistical information for the service.
						C-CSS-62130	516	A			The CSS Bulletin Board Service shall provide a "What's new" feature which informs the user of the new information available on the bulletin boards.
						C-CSS-62390	527	A			The CSS Bulletin Board Service shall allow attaching ASCII or binary files to a message.
						C-CSS-62800	528	A			The CSS Bulletin Board Service shall interface for the applications to post a message to bulletin boards.
						C-CSS-62820	530	A			The CSS Bulletin Board Service shall allow a message to be posted to multiple bulletin boards.
						C-CSS-62314	7378	B0	96-1355		The CSS Bulletin Board Service shall allow the user to withdraw a message from bulletin board after posting.
						C-CSS-62000	9345	IR1			The CSS Bulletin Board Service shall be based on the following standards: a. TCP/IP b. NNTP c. SMTP d. Usenet message standard (RFC 850)
						C-CSS-62010	9346	IR1			The CSS Bulletin Board Service shall support multiple (configurable) bulletin boards (newsgroups).
						C-CSS-62030	9347	IR1			The CSS Bulletin Board Service shall provide concurrent access to multiple users (registered or non-registered).
						C-CSS-62040	9349	IR1			The CSS Bulletin Board Service shall allow multiple messages for each bulletin board.
						C-CSS-62100	9350	IR1			The CSS Bulletin Board Service shall provide capabilities to authorized users (M&O staff) for: a. creating new bulletin board b. deleting existing bulletin board c. deleting message(s) from a bulletin board d. backing up bulletin boards e. forcing users off a bulletin board or the entire bulletin board service for backup f. collecting access history and/or statistical information. g. backing up bulletin boards.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-CSS-62120	9351	IR1			The CSS Bulletin Board Service shall provide the capability to respond to a posted message on a bulletin board by sending the response message to: a. the bulletin board (follow up) b. author of the original message (respond to author) c. named destinations (forward).
						C-CSS-62300	9352	IR1			The CSS Bulletin Board Service shall be available to the users in interactive mode.
						C-CSS-62305	9353	IR1			The CSS Bulletin Board Service shall allow user to subscribe to bulletin boards.
						C-CSS-62310	9354	IR1			The CSS Bulletin Board Service shall allow user to unsubscribe bulletin boards.
						C-CSS-62320	9355	IR1			The CSS Bulletin Board Service shall allow user to select a subscribed bulletin board for viewing summary of all messages in it.
						C-CSS-62330	9356	IR1			The CSS Bulletin Board Service shall provide the capability to respond to a message by sending the response to the bulletin board and/or to the author of the message and/or any other operator specified destination.
						C-CSS-62340	9357	IR1			The CSS Bulletin Board Service shall provide capability: a. to search for a string in message headers or in message text. b. to search by author c. to search by subject.
						C-CSS-62350	9358	IR1			The CSS Bulletin Board Service shall provide a catch-up feature which excludes user specified messages from appearing in the bulletin board when it is viewed next time.
						C-CSS-62360	9359	IR1			The CSS Bulletin Board Service shall allow the users to post messages to bulletin board(s).
						C-CSS-62380	9360	IR1			The CSS Bulletin Board Service shall allow users to copy/save a message to their local system.
ESN-1206#B	8790	96-1452A	The ESN capacity and performance shall be consistent with the specified capacity and performance requirements of the ECS functions.			C-ISS-02390	7423	B0	96-1355		The ISS-INHW CI LANs at the DAAC sites shall be designed in a manner that allows a. Nodes to be added to any given LAN segment. b. Additional LAN segments to be added to the LAN.
						C-ISS-20190	7455	B0	96-1355		The ISS-INHW CI shall contribute to the response time and performance requirements specified in Appendix E (Section E.7 Table E-8) of the current version of 304-CD-005.
ESN-1207#B	8791	96-1452A	The ESN capacity and performance shall be capable of expansion to be consistent with the specified capacity and performance growth requirements of the ECS elements and functions.			C-ISS-02400	7424	B0	96-1355		The ISS-INHW CI EOC Operational LAN shall be able to support 230 network devices without redesign.
						C-ISS-	7445	B0	96-		The ISS LANs at the Release B sites shall be capable of

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						20090			1355		supporting twice the R-B network traffic load estimates without redesign.
						C-ISS-20100	7446	B0	96-1355		The ISS LANs shall be designed in a manner that allows a. Nodes to be added to any given LAN segment.; b. Additional LAN segments to be added to the LAN.
						C-ISS-20190	7455	B0	96-1355		The ISS-INHW CI shall contribute to the response time and performance requirements specified in Appendix E (Section E.7 Table E-8) of the current version of 304-CD-005.
ESN-1330#B	4008		The ESN shall provide ISO/OSI data communications protocols and services specified in the GOSIP (see Figure 8-3) to external interfaces as required by the IRDs.	B: ASTER GDS interfaces to EDC DAAC only.							
ESN-1340#B	8793	96-1452A	The ESN shall provide support for TCP/IP communications protocols and services to external interfaces as required by the IRDs.			C-ISS-02060	2348	IR1			The ISS shall provide network layer services in compliance with one or more of the following protocols as appropriate to the type of the physical network supported. a. IP over Ethernet as specified in RFCs 894, 895, 826 (ARP), 903 (RARP) b. IP over FDDI as specified in RFC 1188, 1390 (ARP, RARP) c. IP over HiPPI as specified in RFC 1374 (includes ARP, RARP) d. IP over SMDS as specified in RFC 1209 (includes ARP, RARP)
						C-ISS-02000	2352	IR1			The ISS shall provide connection oriented transport services as specified by the TCP protocol referenced in RFC 793.
						C-ISS-02020	9386	IR1			The ISS shall provide connectionless transport services as specified by the UDP protocol referenced in RFC 768.
						C-ISS-02030	9387	IR1			The ISS shall provide network layer services as specified by the Internet Protocol (IP) suite referenced in RFC 791.
						C-ISS-02050	9388	IR1			The ISS shall provide ICMP network layer service as specified by RFC 792.
						C-ISS-02520	9389	IR1			The ISS shall provide services based on the Open Shortest Path First (OSPF) protocol referenced in RFC 1583 to route traffic between the source and destination nodes, maintain route databases, and exchange routing information between networks.
						C-ISS-02530	9390	IR1			The ISS shall provide services based on the Routing Information Protocol (RIP) referenced in RFC 1058 to route network traffic between the source and destination nodes.
ESN-1350#B	8797	96-1452A	The ESN LANs shall provide physical devices and the corresponding medium access control (MAC) protocol compatible with ISO and ANSI	This requirement applies to any ECS-supplied LAN.		C-ISS-02100	7406	B0	96-1355		The ISS-INHW CI shall use physical devices and Medium Access Control protocols compatible with the following standards: a. IEEE 802.2 (Logical Link Control) b. IEEE 802.3 (MAC for Ethernet) c. IEEE 802.6 (MAC for SMDS) d. ANSI X3T9.5 (MAC for FDDI).

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
			standards.								
ESN-1360#B	8798	96-1452A	The ESN shall control access of processes and users through an authentication and authorization service that meets GNMP standards.			C-CSS-03210	7280	B0	96-1355		The CSS-DCHW CI Bulletin Board Server shall preserve DAAC autonomy of operations and aggregate all ECS DAAC authentication/authorization policies by user type and DAAC, to provide a integrated view of ECS for user registration, account administration, and authentication/authorization to ECS services.
ESN-1365#B	8800	96-1452A	The ESN shall isolate FOS with secure interfaces.			C-ISS-02040	673	A			The ISS shall provide the capability to filter packets based upon network layer source and/or destination addresses.
						C-CSS-21220	7350	B0	96-1355		The CSS Security Service shall provide a mechanism to authenticate client/server applications using the socket protocol for inter-process communications.
						C-ISS-02010	9385	IR1			The ISS shall provide the capability to filter packets based on the port/socket of the transport layer protocol.
						C-ISS-21010	11877	B0	96-1471A		The ISS-INHW CI shall provide LANs at the following sites: a. GSFC DAAC LAN b. GSFC EOC LAN c. EDC DAAC LAN d. LaRC DAAC LAN f. GSFC SMC LAN
ESN-1367#B	8801	96-1452A	IST users not within FOS facilities shall communicate with secure interfaces only with the use of a data integrity service.			C-ISS-11180	7433	B0	96-1355		The ISS shall provide for connectivity between the EOC and NSI for EOC/IST communications.
ESN-1380#B	8803	96-1452A	The ESN shall provide countermeasures for the following security threats related to data communications: a. modification of data (i.e., manipulation) while in transit over the network b. disclosure of authentication information c. degradation in network or processing resource performance through denial of service attack d. Impersonation of authentication credentials or authorization privileges.			C-CSS-21070	582	A			The CSS Security Service shall provide an API to store server keys associated with servers to a disk file.
						C-CSS-21080	583	A			The CSS Security Service shall provide an API to retrieve the server keys associated with services from a disk file at startup time to authenticate the service.
						C-CSS-21120	587	A			The CSS Security service shall provide an API to check the authorization privileges of principals to access/control services/resources.
						C-CSS-21130	588	A			The CSS Security Service shall provide an API to define the permission schema associated with a server/resource.
						C-CSS-21140	589	A			The CSS Security Service shall provide an API to create and maintain the ACLs associated with the server/resource in a database.
						C-CSS-21150	590	A			The CSS Security Service shall provide an API to save/retrieve the ACL database onto persistent store.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-CSS-21160	591	A			The CSS Security service shall provide the following APIs to MSS security management applications to retrieve/modify the access control lists associated with the ECS services/resources. a. to identify the permissions available to a principal b. to identify all the ACL managers protecting an object c. to get the printable representation of the permissions d. to locate the server with the writable copy of the ACL e. to read an ACL f. to write an ACL g. to test if the calling principal has some permissions h. to test if another principal has some permissions.
						C-CSS-21170	592	A			The CSS Security service shall provide an API to maintain the integrity of the data passing between processes by using checksums at the following three levels: a. connect level b. request level c. packet level
						C-ISS-02040	673	A			The ISS shall provide the capability to filter packets based upon network layer source and/or destination addresses.
						C-CSS-21020	2401	IR1			The CSS Security service shall provide the capability to create/modify/delete user accounts and privileges in the security registry.
						C-CSS-21030	2402	IR1			The CSS Security service shall provide the capability to define/modify/delete group information in the security registry.
						C-CSS-21010	11103	A	96-0977 A		The CSS Security service shall not transmit its authentication information in clear text across networks.
						C-CSS-21060	11105	A	96-0977 A		The CSS Security Service shall provide an API to accept server keys (i.e. passwords) associated with services interactively at the startup of a service.
						C-CSS-21110	11107	A	96-0977 A		The CSS Security service shall provide the functionality to authenticate the principal before checking whether the principal is authorized to access a service/resources.
						C-CSS-30080	11128	A	96-0977 A	c. ACL database filename or a sybase key - whatever is needed to access the ACLs	The Process Framework shall provide interfaces to the underlying distributed infrastructure to set the following security parameters: a. Server principal name b. Keytab file name c. ACL database filename

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
										associated with that process	
						C-CSS-21225	11139	A	96-0977 A		The CSS Security service shall provide a name based authorization capability.
ESN-1400#B	8805	96-1452A	The following security functions and services, at a minimum, shall be provided: a. authentication b. access (authorization) control c. data integrity d. data confidentiality			C-CSS-20110	573	A			The CSS Directory service shall determine which naming service to use from a given context.
						C-CSS-21050	580	A			The CSS Security Service shall provide an API to refresh login contexts before they expire.
						C-CSS-21070	582	A			The CSS Security Service shall provide an API to store server keys associated with servers to a disk file.
						C-CSS-21080	583	A			The CSS Security Service shall provide an API to retrieve the server keys associated with services from a disk file at startup time to authenticate the service.
						C-CSS-21090	584	A			The CSS Security Service shall provide an API to change the identity of an application process through server keys.
						C-CSS-21120	587	A			The CSS Security service shall provide an API to check the authorization privileges of principals to access/control services/resources.
						C-CSS-21130	588	A			The CSS Security Service shall provide an API to define the permission schema associated with a server/resource.
						C-CSS-21140	589	A			The CSS Security Service shall provide an API to create and maintain the ACLs associated with the server/resource in a database.
						C-CSS-21150	590	A			The CSS Security Service shall provide an API to save/retrieve the ACL database onto persistent store.
						C-CSS-21160	591	A			The CSS Security service shall provide the following APIs to MSS security management applications to retrieve/modify the access control lists associated with the ECS services/resources. a. to identify the permissions available to a principal b. to identify all the ACL managers protecting an object c. to get the printable representation of the permissions d. to locate the server with the writable copy of the ACL e. to read an ACL f. to write an ACL g. to test if the calling principal has some permissions h. to test if another principal has some permissions.

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						C-CSS-21170	592	A			The CSS Security service shall provide an API to maintain the integrity of the data passing between processes by using checksums at the following three levels: a. connect level b. request level c. packet level
						C-CSS-21180	593	A			The CSS Security service shall provide an API to encrypt and send the data passing between processes at the following three levels: a. connect level b. request level c. packet level
						C-CSS-21200	599	A			The CSS Security service shall support the Data Encryption Standard (DES) to encrypt and decrypt data.
						C-CSS-01170	655	A			The CSS DOF Service shall provide APIs to set/get the authentication service type to be used between the server and the client.
						C-CSS-01200	658	A			The CSS DOF Service shall provide APIs to maintain the privacy of the data passed between the client and the server by encrypting and decrypting the data.
						C-CSS-01210	659	A			The CSS DOF Service shall provide APIs to set the identity of a given principal to a given process.
						C-CSS-10600	7321	B0	96-1355		The CSS DCCI shall accept User authentication request from CLS.
						C-CSS-10620	7323	B0	96-1355		The CSS DCCI shall provide User authentication response to CLS .
						C-CSS-10640	7325	B0	96-1355		The CSS DCCI shall accept User authorization request from IOS.
						C-CSS-10660	7327	B0	96-1355		The CSS DCCI shall provide User authorization response to IOS .
						C-CSS-10680	7329	B0	96-1355		The CSS DCCI shall accept User authorization request from DMS.
						C-CSS-10700	7331	B0	96-1355		The CSS DCCI shall provide User authorization response to DMS.
						C-CSS-21005	11102	A	96-0977 A		The CSS Security service shall provide the functionality to get a unique session key for each client session.
						C-CSS-21010	11103	A	96-0977 A		The CSS Security service shall not transmit its authentication information in clear text across networks.
						C-CSS-21060	11105	A	96-0977 A		The CSS Security Service shall provide an API to accept server keys (i.e. passwords) associated with services interactively at the startup of a service.
						C-CSS-21105	11106	A	96-0977 A		The CSS shall notify MSS upon the failure or success of each authentication request.
						C-CSS-21110	11107	A	96-0977 A		The CSS Security service shall provide the functionality to authenticate the principal before checking whether the principal is authorized to access a service/resources.
						C-CSS-	11128	A	96-	c. ACL	The Process Framework shall provide interfaces to the

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						30080			0977 A	database filename or a sybase key - whatever is needed to access the ACLs associated with that process	underlying distributed infrastructure to set the following security parameters: a. Server principal name b. Keytab file name c. ACL database filename
						C-CSS-21225	11139	A	96-0977 A		The CSS Security service shall provide a name based authorization capability.
ESN-1430#B	8808	96-1452A	The ESN shall provide the following security event functions: a. Event detection b. Event reporting c. Event logging			C-CSS-28000	2344	IR1			CSS Event Logger Service shall provide capability to record event and history data to a application specific log file.
						C-MSS-36060	2373	IR1			The MSS Management Agent Service shall provide an ECS management agent that is configurable to include: a. Community to respond to and set attributes b. Agent location & contact person c. Traps to send d. Events to log & log file name
						C-MSS-36010	2407	IR1			The MSS Management Agent Service shall retrieve data from ECS managed objects in test or operational mode.
						C-MSS-70120	2411	IR1			The MSS site Security Management Application service shall provide the mechanism, for each ECS host, to allow or deny incoming requests from specific hosts to services.
						C-CSS-28020	4810	IR1			CSS Event Logger Service shall accept and record the application information (name and version of the calling application).
						C-CSS-28030	4811	IR1			CSS Event Logger Service shall accept and record event message information.
						C-CSS-28040	4812	IR1			CSS Event Logger Service shall accept and record the event type information. (Type of the event: fault, performance)
						C-CSS-28025	4895	A			CSS Event Logger Service shall support predetermined logging levels that provide different levels of information.
						C-CSS-28010	9333	IR1			CSS Event Logger Service shall accept and record event time (when the event was generated, obtained from the Time Service) information.
						C-CSS-28060	9334	IR1			CSS Event Logger Service shall inform M&O staff if the event disposition narrative by the application demands so.
						C-CSS-28070	9335	IR1			CSS Event Logger Service shall record the operator/principle information that is relevant for the generated event.
						C-CSS-	9336	IR1			CSS Event Logger Service shall record the environment

RBR_id	req_key	CCR	text	interpretation text	clarification	L4 id	req_key	rel	CCR	clarification	text
						28080					information for the generated event.
						C-MSS-76030	10782	A	96-0970 A		The MSS Accountability Management Service shall be capable of browsing, via the Management Data Access service, logged events, for each ECS host, indicating incoming access attempts via: a. telnet b. FTP c. rlogin d. finger.
59						877					

Change Table.1: This table identifies modifications to existing ESN RbR Release. B Requirements as identified in RTM Baseline Version 011797.

RbR-id	req_key	req_category	segment	req_type	s_verif_method	s_verif_stat	a_verif_method	a_verif_stat	CCR	text	interpretation text	clarification
ESN-0003#B	8534	mission essential	CSMS	functional	analysis	un-verified	analysis	un-verified	96-1452A	The ESN shall enable researchers on existing networks (TCP/IP and GOSIP) to gain access to data and ECS services in a transparent manner to the underlying differences between the networks.	B: ASTER GDS interfaces to EDC DAAC only. All researchers gain access to data and ECS via NSI. ECS supports the SUITE TCP/IP protocol network. Note: Some European scientists with OSI based networks should be able to access ECS via the Internet.	
ESN-0280#B	8732	mission critical	CSMS	functional	test	un-verified	test	un-verified	96-1452A	The ESN shall provide file transfer and management service and as a minimum shall include the capability to transfer the following data types: a. Unstructured Text b. Binary Unstructured c. Binary Sequential d. Sequential Text	Management services are not provided for release B.	
ESN-0620#B	8745	mission critical	CSMS	functional	test	un-verified	test	un-verified	96-1452A	The ESN shall include a network management function to monitor and control the ESN.	ESN is considered to be ECS site networks.	
ESN-0640#B	8748	mission critical	CSMS	functional	test	un-verified	test	un-verified	96-1452A	The ESN shall include management functions at each ECS element, equipment or gateway within the ESN.	ESN is considered to be ECS site networks.	

RbR-id	req_key	req_category	segment	req_type	s_verif_method	s_verif_stat	a_verif_method	a_verif_stat	CCR	text	interpretation text	clarification
ESN-1000#B	6263	mission essential	CSMS	functional/ operational	test	un-verified	test	un-verified		The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical.		Staff is to analy and recommend corrective actio Future releases are to consider automation of staff activities.
ESN-1330#B	4008	~~mission essential~~ N/A procedural	~~CSMS~~ N/A-procedural	~~functional~~ procedural	~~analysis~~ Not verified by ECS	~~un-verified~~ N/A-procedural	~~analysis~~ Not verified by ECS	N/A-procedural		The ESN shall provide ISO/OSI data communications protocols and services specified in the GOSIP (see Figure 8-3) to external interfaces as required by the IRDs.	B: ASTER GDS interfaces to EDC DAAC only. ECS external interfaces do not require GOSIP. All ECS external interfaces support TCP/IP.	

Table. 2: Link deletions between Level-4s and RbRs Release. B

RbR-id	L4-id
~~ESN-0010#B~~	~~C-ISS-01010~~
~~ESN-0010#B~~	~~C-ISS-01190~~
~~ESN-0070#B~~	~~C-ISS-01190~~
~~ESN-0070#B~~	~~C-ISS-01010~~
~~ESN-1360#B~~	~~C-CSS-03210~~

Table. 3: Link additions between Level-4s and RbRs Release. B

RbR-id	L4-id
ESN-0003#B	C-ISS-20000
ESN-0003#B	C-ISS-02522
ESN-0070#B	C-ISS-11195
ESN-0080#B	C-ISS-11195
ESN-0080#B	C-ISS-01080
ESN-0240#B	C-ISS-02390
ESN-0240#B	C-ISS-02400
ESN-0240#B	C-ISS-02410
ESN-0240#B	C-ISS-20090
ESN-0345#B	C-CSS-61810
ESN-0370#B	C-CSS-63060
ESN-0370#B	C-CSS-63050
ESN-0610#B	C-CSS-20000
ESN-0650#B	C-ISS-20000
ESN-0760#B	C-MSS-77080
ESN-0760#B	C-MSS-40000
ESN-1140#B	C-ISS-01080
ESN-1206#B	C-ISS-02410
ESN-1206#B	C-ISS-20050
ESN-1206#B	C-ISS-20060
ESN-1206#B	C-ISS-20070
ESN-1206#B	C-ISS-20080
ESN-1340#B	C-ISS-02522
ESN-1340#B	C-ISS-02230
ESN-1350#B	C-ISS-02250

RbR-id	L4-id
ESN-1350#B	C-ISS-02230
ESN-1360#B	C-CSS-21020
ESN-1360#B	C-CSS-21030
ESN-1360#B	C-CSS-21110
ESN-1360#B	C-MSS-70100
ESN-1360#B	C-MSS-70110
ESN-1360#B	C-MSS-70120
ESN-1360#B	C-MSS-70130
ESN-1365#B	C-ISS-02500
ESN-1365#B	C-ISS-20000
ESN-1367#B	F-FOS-00480
ESN-1380#B	C-ISS-02010
ESN-1400#B	C-ISS-02500